Mineralogy Mod Aff

AMERICAN

RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

ASSISTANT EDITORS:

JAMES T. HODGE, *For Mining and Metallurgy.*
CHARLES T. JAMES, *For Manufactures and the Mechanic Arts.*
M. BUTT HEWSON, *For Civil Engineering.*

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JOHN H. SCHULTZ & CO.

Room 12, Third Floor,

No. 136 Nassau Street.

IRON BRIDGES, BRIDGE & ROOF BOLTS, etc. STARKS & PRUYN, of Albany, New York, having at great expense establishe. a manufactory with every facility of Machinery for Manufacturing Iron Bridges, Bridge and Roof Bolts, together with all kinds of the larger sizes of Screw Bolts, Iron Railings, Steam Boilers, and every description of Wrought Iron Work, are prepared to furnish to order, on the shortest notice, any of the above branches, of the very best of American Refined Iron, and at the lowest rates.

During the past year, S. & P. have furnished several Iron Bridges for the Erie Canal, Albany Basin, etc. —and a large amount of Railroad Bridge Bolts, all of which have given the most perfect satisfaction.

They are permitted to refer to the following gentlemen:

Charles Cook, Nelson J. Beach, Jacob Hinds,	Canal Commissioners of the State of New York.
Willard Smith, Esq.,	Engineer of the Bridges for the Albany Basin.
Messrs. Stone & Harris, Mr. Wm. Howe,	Railroad Bridge Builders, Springfield, Mass.
Mr. S. Whipple,	Engineer & Bridge Builder, Utica, N. Y.

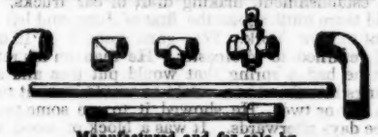
January 1, 1849.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.



Manufactured and for sale by

MORRIS, TASKER & MORRIS.

Warehouse S. E. Corner of Third & Walnut Streets,

PHILADELPHIA.

To Railroad Companies, etc.

The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Switches, etc.

Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to

C. LIEBRICH,
46 South 8th St., Philadelphia.

November 3, 1849. 6m*

Mattewan Machine Works.

THE Mattewan Company have added to their Machine Works an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern—also *Tenders, Wheels, Axles*, and other railroad machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen, or other Mills*, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Planing, Cutting and *Drilling Machines*, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at 66 Beaver street, New York.

WM. B. LEONARD, *Agent.*

☞ HEAD QUARTERS FOR RUBBER GOODS. ☜

The Union India Rubber Company,

MANUFACTURERS AND DEALERS IN EVERY VARIETY OF

GOODYEAR'S PATENT METALLIC RUBBER FABRICS,

Which they offer on the most liberal terms at their Warehouse,

NO. 19 NASSAU STREET, NEW YORK.

Articles which this Company has the exclusive right to make comprise in part

Beds,	Overcoats,	Life Preservers,	Mail Bags,	Camp Blankets,
Pillows,	Leggins,	Boat Floats,	Breast Pumps,	Travelling Bags,
Cushions,	Syringes,	Souwesters,	Saddle Bags,	Wading Boots,
Caps,	Canteens,	Gun Cases,	Clothing of all kinds,	Horse Covers,
Tents,	Buoys,	Portable Boats,	Carriage Cloth, assor.	Piano Forte Covers,
Bottles,	Maps,	Horse Fenders,	Hospital Sheeting,	Railroad Gum,
Tubs,	Sheet Gum,	Water Tanks,	Mattrass Covers,	Hose, all kinds,
Caps,	Tarpaulins,	Army Goods,	Bathing Caps,	Shower Baths,
Pants,	Life Jackets,	Navy Goods,	Baptismal Pants,	Chest Expanders.

Together with *all new applications of the Patent Rubber*, which with Boots and Shoes, Packing, Machine Belting, Suspenders, Gloves and Mittins, Tobacco Wallets, Balls, Baby Jumpers, Elastic Bands, etc., etc., will be sold to the Trade at Factory prices.

*** All orders for special articles to be manufactured, should be accopanied with full descriptions and drawings.

October 20, 1849.

ETNA

SAFETY FUSE.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,

☞ *Sole Manufacturers,* ☜

No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

☞ The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 3, 1849. 1y

RAILROAD India-rubber Springs.

IF any Railroad Company or other party desires it, the NEW ENGLAND CAR COMPANY will furnish India-rubber Car Springs made in the form of washers, with metalic plates interposed between the layers, or in any other form in which they can be made; in all cases guaranteeing the right to use the same against any and all other pretended rights or claims whatsoever.

F. M. Ray, 98 Broadway, New York.
E. CRANE, 99 State Street, Boston.

1940.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS,

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory,*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

Iron Safes.

FIRE and Thief-proof Iron Safes, for Merchants, Banks and Jewelers use. The subscriber manufactures and has constantly on hand, a large assortment of Iron Safes, of the most approved construction, which he offers at much lower rates than any other manufacturer. These Safes are made of the strongest materials, in the best manner, and warranted entirely fire proof and free from dampness. Western merchants and the public generally are invited to call and examine them at the store of E. Corning & Co., sole agents, John Townsend, Esq., or at the manufactory.

Each safe furnished with a thief-detector lock, of the best construction.

Other makers' Safes repaired, and new Keys and Locks furnished at the shortest notice.

H. W. COVERT,
cor. Steuben and Water sts. Albany.

August 24, 1848.

NEW YORK IRON BRIDGE COMPANY.

The Bridges manufactured by this Company having been fully tested on different Railroads, by constant use for more than two years, and found to answer the full expectations of their most sanguine friends, are offered to the public with the utmost confidence as to their great utility over any other Bridge now known.

The plan of this Bridge is to use the iron so as to obtain its greatest longitudinal strength, and at the same time it is so arranged as to secure the combined principles of the *Arch, Suspension and Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

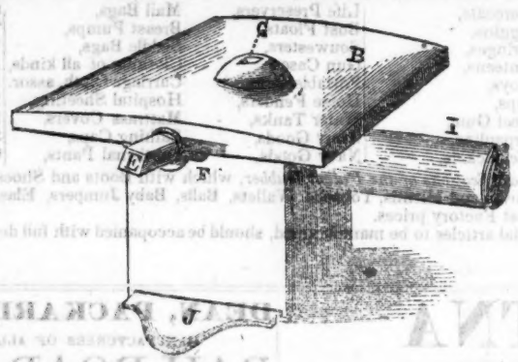
THE NEW YORK IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Railroad or other purposes, at short notice, and at moderate prices.

Models, and pamphlets giving full descriptions of the above BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, 39 Jauncey Court, Wall st., or of W. RIDER & BROTHERS, 19 *Nassau Street*, where terms of contract will be made known, and where orders are solicited.

M. M. WHITE,
Agent for the Company.

August 29, 1849.

E. Harris' Patent Rotary Blacksmith Tuyere.



LETTERS Patent were issued January 9, 1849, to E. HARRIS, of Springfield, for an Improved Rotary Blacksmith Tuyere. Since that time there have been some hundreds put in operation, giving satisfaction and full proof of superiority over all others.

This Tuyere is so arranged that by one movement it can be changed from the largest work to the smallest; at the same time the fire is changed in proportion, thereby making a great saving in coal. Words cannot convey the full merits of this Tuyere; nor is it deemed necessary to speak in disparagement of other Tuyeres, as every smith is capable of judging for himself, and will give merit where merit is due.

I will simply say that there has not been a single instance where I have had my Tuyere put in use but it has given full satisfaction, and is recommended by all who have used them, as being superior to any other ever introduced. I would invite all to give them a trial; and the names of those using them being given, I hope it may induce others to try them, as they recommend themselves.

Western Railroad Shop,	Springfield,	Mass.
" "	Pittsfield,	"
Connecticut val. "	Springfield	"
" "	N. Hampton	"
Hartford "	Hartford	Conn.
New Haven "	New Haven	"
Norwich and Worcester,	Norwich	"
N. York and N. Haven,	New Haven	"
Saratoga and Whitehall,	Saratoga,	N. Y.
Vermont Central,		
Hudson and Berkshire,	Hudson,	
L. Kingsley,	Canton,	Mass.
Hadley Falls Co.	Ireland,	W. Springfield, Mass.
Sidney Patch,		Boston, "
Ames Manuf. Cor.,		Chickopee, "
American Machine w'ks,		Springfield "
Dean, Packard & Mills		" "
G. Frank Bradley,		N. Haven, Conn.
Andrew Baird,		" "
Collis & Lawrence		" "
Slate & Brown,		Windsor Locks,
Gage,		Nashua, N. H.
Machine shop,		Manchester, "
Louis F. Lanney,		Baltimore, Md.
J. H. Baerdid,		179 Chambers st. N. Y.
J. Fanning		Rochester, "
G. W. Hunt		41 Gold st. "
Chamberlain & Waldo,		"
P. S. Burges, carriage maker,		"
Samuel Miller,		"
J. Leggett,		Steverson falls, "
J. E. Harris,		Hillsdale, "
John L. Graham,		Albany, "
David Dalsell,		South Egremont, Mass.
Roys & Wilcock,		Berlin, Conn.

Agents for the sale of Tuyeres:
B. B. Stevens in New York and Connecticut.
W. S. Seymour in Massachusetts and R. Island.
A. J. VanAllen has the Agency for the Western and Southern States, and is now travelling through those States. Any communication addressed to the patentee will receive prompt attention.

E. HARRIS, Patentee,
Springfield, Mass.

November 23, 1849.

CHRONOMETERS.

MERCHANTS, Ship Owners, Captains and others, are invited to examine the advantages offered in the purchase of Chronometers, by HEWITT & SON, Makers, 92 Wall Street, (up stairs,) in their superior quality and great reduction of price.

H. & S. have for many years been engaged in the manufacture of Chronometers, for the first houses in the trad and also, for the Navy of most Nations, and have received numerous rewards for their superior performance. Their Chronometers may be obtained from the Observatory at Liverpool, by order from H. & S., and at City Road, London. They are warranted to give satisfaction; but if not approved of, will be exchanged in New York, London, or Liverpool.

Rating, Cleaning and Repairs, at *low charges*.
The Trade supplyed on the most liberal terms.
November 17, 1849.

F. M. Ray's Patent India-rubber Car Springs.

India-rubber Springs for Railroad Cars were first introduced into use, about two years since, by the inventor. The New England Car Company, now possesses the exclusive right to use, and apply them for this purpose in the United States. It is the only concern that has tested their value by actual experiment, and in all arguments in favor of them, drawn from experience of their use, are in those cases where they have been furnished by this company. It has furnished every spring in use upon the Boston and Worcester road, and, in fact, it has furnished all the springs ever used in this country, with one or two exceptions, where they have been furnished in violation of the rights of this company; and those using them have been legally proceeded against for their use, *as will invariably be done in every case of such violation.*

The Spring formed by alternate layers of India-rubber discs and metal plates, which Mr. Fuller claims to be his invention, was invented by Mr. Ray in 1844.—In proof of which we give the deposition of Osgood Bradley, of the firm of Bradley & Rice, of Worcester, Mass., car manufacturers, and men of the highest respectability. In this deposition, in relation to the right of parties to use these springs, he says:

"I have known Mr. Ray since 1835. In the last of May or the commencement of June, 1844, he was at my establishment, making draft of car trucks. He staid there until about the first of July, and left and went to New York. Was gone some 8 or 10 days, and returned to Worcester. He then on his retnrn said he had a spring that would put iron and steel springs into the shade. Said he would show it to me in a day or two. He showed it to me some two or three days afterwards. It was a block of wood with a hole in it. In the hole he had three pieces of India-rubber, with iron washers between them, such as are used under the nuts of cars. Those were put on to a spindle running through them, which worked in the hole. The model now exhibited is similar to the one shown him by Ray. After the model had been put into a vice, witness said that he might as well make a spring of putty. Ray then said that he meant to use a different kind of rubber, and referred to the use of *Goodyear's Metallic Rubber*, and that a good spring would grow out of it." There are many other depositions to the same effect.

The history of the invention of these springs, together with these depositions, proving the priority of the invention of Mr. Ray, will be furnished to all interested at their office in New York.

This company is not confined to any particular form in the manufacture of their springs. They have applied them in various ways, and they warrant all they sell.

The above cut represents precisely the manner in which the springs were applied to the cars on the Boston and Worcester road, of which Mr. Hale, President of this road speaks, and to which Mr. Knevitt refers in his advertisement. Mr. Hale immediately corrected his mistake in the article quoted by Mr. Knevitt, as will be seen by the following from his paper of June 8, 1848. He says:

INDIA-RUBBER SPRINGS FOR RAILROAD CARS.—"In our paper yesterday, we called attention to what promises to be a very useful invention, consisting of the application of a manufacture of India-rubber to the construction of springs for railroad cars. Our object was to aid in making known to the public, what appeared to us the valuable properties of the invention, as they had been exhibited on trial, on one of the passenger cars of the Boston and Worcester railroad. As to the origin of the invention we had no particular knowledge, but we had been informed that it was the same which had been introduced in England, and which had been subsequently patented in this country; and, we were led to suppose that the manufacturers who have so successfully applied this material, in the case to which we referred had become possessed of the right to use that patent. It will be seen from the following communication, addressed to us by a member of the company, by which the Worcester railroad was supplied with the article upon which our remarks were based, that we were in an error, and that the springs here introduced are an American invention, as well as an American manufacture. How far the English invention may differ from it we have had no opportunity of judging."

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HENRY V. POOR, Editor.

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ASSISTANT EDITORS,

J. T. HODGE, *For Mining and Metallurgy.*

GEN. CHAS. T. JAMES, *For Manufactures and the Mechanic Arts.*

M. BUTT HEWSON, C. E., *For Civil Engineering.*

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American Railroad Journal.

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Saturday, March 16, 1850.

The Coal Trade of London.

Continued from page 147.

As the meters' establishment of London was abolished in 1831, the coal owners, factors and merchants, have agreed among themselves on a system of weighing, to ensure accuracy of dealings. A committee of owners and merchants (or sellers and buyers) manages the system and pays for the services of a large number of weighers; the buyer and seller sharing the expense between them. In 1830 the expenses incurred by the merchant, from the time he bought a ship load of coals to the deposition of the coal in the cellar of the consumer, amounted on an average to as much as 11s. per ton —comprising commission, literage, cartage, shootage, metage, market dues, land metage, and other items. By the year 1836, these expenses had been reduced to 7s.; and at the present time they must be considerably lower. The coal owners and merchants have nothing to do with each other under ordinary circumstances, although they are the real sellers and buyers; the factor acts for both: the merchant is responsible only to the factor, and the factor to the owner. Excepting in the case of very large purchases, for gas works, breweries, and other extensive establishments, all the coal used in London passes through the hands of the merchants —who, for the most part, have their own barges, wharfs, wagons and horses.

The actual discharge of the coals from the ships to the barges drawn up alongside, is a distinct system from all the other arrangements. The corporation, the coal factors, the coal merchants—none of these are concerned in the matter. The shipowner acting for the coal owner, or for the party who pays the freight of the vessel, hires and pays for the services of the men who make the transfer of the coals. For some reason or other, the crews of the coal ships seldom perform this duty; they either do not like it, or they are not equal to it, or the captain prefers another plan. The persons employed are coal whippers, strong laboring men, whose services are always available for this work. They work in gangs, usually of nine each; and the agreement is always so much per ton for the whole gang. The terms are usually about a penney per ton per man. The coal merchant who has bought the cargo, sends his barges to the side of the ship; and the gang of coal whippers work on until they have emptied the cargo into the barges. Some of them descend into the hold, and fill the baskets or boxes with coals, and others draw up the laden baskets by means of ropes and pulleys, and empty the contents into the barges. The work is the coarsest and rudest kind of manual labor. Nine men can whip about 80 or 90 tons in a day. The men can often earn a shilling an hour each while at work; but the number of hours' work obtainable in a week is subject to much fluctuation. It seems plain, however, that the earnings are decidedly above those of laboring men generally. There are from 1,600 to 2,000 men thus employed in the Thames; and they have often found means to make the position of interlopers into their trade anything but agreeable.

Until within a few years, these strong and hardy men suffered themselves to be duped in an extraordinary way by publicans and petty shop keepers on shore. The custom was for the captain of a coal ship, when he required a cargo to be whipped, to apply to one of the publicans for a gang; and a gang was thereupon sent from the public house. There was no profession or pre-arranged deduction from the price paid for the work; the captain paid the publican, and the publican paid the coal whippers; but the middleman had his profit in another way. The coal whipper was expected to come to the public house in the morning; to drink while waiting for work; to take drink with him to the ship; to drink again when the days' work was done; and to linger about and in the public house until almost bed time before his day's wages were paid. The consequence was, that an enormous ratio of his earnings went every day to the publican. The publicans were wont to rank their dependents into two classes—the "constant men" and the "stragglers;" of whom the former were first served whenever a cargo was to be whipped; in return for this, they were expected to spend almost the whole of their spare time in the public house, and even to take up their lodgings there. As the coal whippers contrived by intimidation to keep out strangers from their trade, so the publicans and their immediate adherents were able to harass those who wished to escape from this truck system; and the "penny-a-ton men" used to receive many a drubbing from the "penny-farthing" men. The captains preferred applying to the publicans rather than engaging the men themselves, because it saved them trouble; and because, as was pretty well understood, the publicans curried favor with them by indirect means. Grocers and small shopkeepers did the same; and the coal whippers had then to buy bad and dear groceries instead of bad and dear beer and gin. The legislature tried by various means to protect the coal whippers; but the publicans contrived means to evade the law.—About 1834 Lieut. Arnold tried how far an individual could remedy the system, by establishing a coal whippers' office, in which the men could receive the whole of their earnings, without the necessity of such constant resort to a public house; his attempt was a benevolent one, but it was hotly opposed by the publicans, and was not supported to any great degree by the coal owners and shippers. At length was passed, in 1843, an act of which an abstract is given in a previous volume, and which has placed the coal whippers in a more systematised position. The whole is a remarkable instance of what small matters (as they often appear) the legislature will sometimes interest itself in.

When the coal whippers have discharged the

cargo from the ships to the barges, the coal owner, ship owner, Corporation, factor, coal whipper—all have done their part. The merchant is then the only party concerned. He has, if in a large way of business, his own barges, wharfs, wagons, horses, sacks, weighing machines, screens, and everything requisite for transferring the coals to the cellar of the consumer. If he is in a smaller way, he probably buys from the larger merchant. There are nearly 1000 persons in London who sell coals: from the merchants whose establishments are of great magnitude, to the small shopkeeper who sells a pennyworth either of coals or of green grocery. The price of coals, as given in the London market in the daily papers, is the price up to the time when the coals are whipped from the ships to the merchants' barges. It includes, 1st, the value of the coals at the pit's mouth; 2d, the expense of transit from the pit to the ship; 3d, the freight of the ship to London; 4th, the Thames dues, and 5th, the whipping. The difference between the market price and the price paid by consumers, is made up of the expense incurred by the coal merchant for barges, wharfs, wagons, horses, wages, etc., together with his profit and risk.

There is still one matter more to complete the chain of operations. The emptied coal ships must get back to Newcastle; and as there are not cargoes enough from London to freight them, they must take in ballast to make the ships heavy enough to sail in safety. This ballast is chiefly gravel or sand, dredged up from the bed of the Thames in and near Woolwich Reach. The Trinity House takes upon itself this duty. The captain when he requires to sail, applies to the ballast office and the required weight of ballast is sent to the ship in lighters belonging to the Trinity House; the captain paying so much per ton for it. About eighty tons on an average are required for each vessel; and the quantity thus supplied by the Trinity House is, we believe, about 10,000 tons per week. Some of the ships are ballasted with chalk taken from Purfleet; all ballast taken from higher up the river than that point, must be supplied by the Trinity House. When the ship reaches the Tyne, the ballast is of no further use: but it must not be emptied into that river; it has therefore to be deposited on the banks of the river, where huge mounds are now collected, two or three hundred feet high. It is a curious example of the mode in which commercial enterprises often originate, that parties have found it worth their while to make a railway from near South Shields to a point on the sea shore, a mile or two distant, on purpose to deposit there the ballast which has become more and more an incumbrance on the banks of the river; the ship owners pay a small price per ton for the removal of the ballast from their vessels. It is something more than a metaphor, to designate this a transfer of the bed of the Thames to the banks of the Tyne; it has a per centage of truth in it.

Thus we find, that about 12,000 persons are engaged in mining and shipping coals for London; 22,000 in navigating the coal ships from the North to the Thames; 2,000 in "whipping" the coal from the ships to the merchants' barges; and 1,000 in selling the coals to the consumers in London. How many are engaged as coal bargemen upon the Thames and upon the canals, coal heavers at the wharfs, and coal wagoners in the streets, we have no data for determining.

Pennsylvania Canal.

Two canal boats, full laden with merchandise for Pittsburgh, left Columbia, Pa., on the 5th, by the way of the Pennsylvania canals. These are the first boats of the season.

We give place to the following, copied from the Savannah Republican, knowing it to come from the hands of a practical engineer whose opinion is entitled to respect. The improvement of Mr. Remington, it seems, consists simply in substituting wood for iron in what is termed the suspension bridge.

There can be no objection to wood on account of its not possessing sufficient strength when subjected to a longitudinal strain or tension. Its adaptedness to this purpose must depend upon its durability when exposed to the action of the weather, and to the jar and vibration caused by the travel over it. This must be determined by experiment, and we are glad to learn that such an experiment Mr. Remington is now engaged in making:

To the Editors of the Savannah Republican:

GENTLEMEN—In passing through Montgomery Alabama, a few days since, I accidentally witnessed an experiment there going forward with a model of a bridge constructed upon the "Remington patent."

I was much struck with the practical workings of the bridge, and knowing your willingness to publish anything that will tend to the good of the public, and also deeming it but an act of justice to Mr. Remington and his bridge, I have taken the liberty of laying before the public, through the columns of your valuable paper, a hasty statement of it and its merits.

The *experiment* I witnessed, consisted of the testing of a model bridge of 60 feet span. The bridge was constructed entirely of timber, and consisted of 3 longitudinal stringers, or supporterss each 60 feet long and *one* inch square at the centre, firmly fastened at each end, to an abutment, also of timber, which was screwed fast to the floor. Upon these three stringers were laid pieces of plank sufficient to pile the testing weights upon, and there was then placed upon the bridge, the enormous weight of 29,600 pounds, or nearly 15 tons, when one of the abutments, from being imperfectly fastened, gave way. Had the abutments been properly fastened, I have not the least doubt but the stringers were capable of sustaining at least 50 per cent. more weigh. The experiment, however, was perfectly satisfactory, and convinced the most sceptical of those who witnessed it, of the great value and importance of Mr. Remington's plan.

I have, for many years, been engaged upon public works, and have constructed many bridges upon various plans, yet I have no hesitation in stating that the Remington bridge far supercedes all other bridges—in its capacity of long spans—in its grer strength—in its ready adaptation to any locality—and what is of great importance, in the cheapness of its first cost, as also in the cost of repairs, &c.

Mr. Remington is now busily engaged in constructing a bridge at Montgomery—of 400 feet span—across a deep ravine; to be used for the passage of trains of cars, and also for heavy loaded teams.

The bridge will be constructed entirely of planks, and will form, when completed, a perfect floor or or body of plank 12 feet wide, 5 inches thick at the abutments, and 3 inches thick at the centre. [The object of using so much timber, as I was informed, is to demonstrate its practicability for railway use; at the same time it is cheaper than to strip it into separate stringers.]

The plank for 133 feet in the distance—in the centre—are only three inches thick, as they taper from the abutments, where they are 5 inches thick, to a thickness of 3 inches in the first 133 feet. Yet with this slight amount of timber in the middle of a 400 feet span bridge, it will sustain the enormous amount of *two thousand one hundred and sixty tons*—a weight that appears almost incredible and sufficient to break down any other timber or iron bridge in the Union, be its span great or small.

The great value of the bridge consists in its wonderful strength and cheapness. It can be constructed at a mere fraction of the cost of ordinary bridges; and what appears still more singular, the longer the span the cheaper the price per running foot. Its cheapness and capability of great spans, render it peculiarly valuable to new countries where money is scarce, but where timber and streams are plenty—and I have no doubt but that it will in a few years entirely supercede all other kinds of bridges, both in new and old settled States, and also for railways and highways.

For ordinary road purposes, four stringers one and a half or two inches square covered with plank, will be sufficient to sustain all the load that will ever be placed upon them—and a bridge of this nature four or five hundred feet span can be constructed at a cost of two or three dollars per foot run.

Mr. Remington, as I was informed, has recently returned from England where he has constructed several of his bridges, for the purpose of constructing this Bridge at Montgomery—in order, as he says, "to demonstrate to the American people [who have heretofore placed no confidence in his statements,] the entire practicability of his bridge"—and it is his intention to return again to England after the completion of the bridge he is now building.

The bridge at Montgomery will be completed in five or six weeks, and will then well repay any person for a visit to it. I have heard an argument urged against Mr. R's plan, that the timber, from the small quantity used, would decay very rapidly, and consequently the bridge would for a short time only, be useful. Mr. R. has, however, invented a preparation, costing but little, by means of which the timber used may be made imperishable. The base of the preparation is molecules of sand, which renders wood covered with it fire proof and impervious to water. The bridges are to be covered with this preparation to the depth of a quarter of an inch on top with the same preparation in the form of a paint below.

R. L. L.

NEW ORLEANS, February 19, 1850.

To the Editor of the Railroad Journal:

Sir—While on a trip down the Ohio river a short time since, my attention was drawn to a very flourishing place, situated in Indiana, 130 miles below Louisville, known as Cannelton. The evident signs of improvement, and numerous buildings in all stages of erections, and of all sizes, from an immense large cut-stone one to the modest two story cottage, induced me to stop a day or two and see what was going forward in this, heretofore considered, out-of-the-way part of the world. Upon looking around, (after I was fairly housed in the hospitable mansion of Hon. E. M. Huntington,) I found that Cannellton was in reality a place that bids fair to be of great importance, not only to Indiana, but to the entire West and South. It is in fact the commencement of a large manufacturing city; and as your paper takes a great interest in such matters, I will trouble you with a slight sketch of its present position and resources.

The locality has been well chosen; and as a site for a manufacturing city, it certainly possesses advantages that are unequalled in the Union, if not in the world.

The great objects to be obtained in a manufacturing city, to wit: "power, cheap and certain," "cheap living," "facilities for transporting men and matter," "proximity to the materials to be manufactured," "nearness to the market to be supplied," "healthy situation," "a good site for buildings," and "a close proximity to the materials to be used in their construction," are fully obtained at Cannellton.

The power consists in the inexhaustible coal bed that outcrops in the rear of the village. This coal is of a superior quality of "Cannel coal," and can be deposited at any point within the village at a cost of not over three cents a bushel, or 84 cents a ton. Almost the entire cost consists in excavating it: as the cars from the mines, when once loaded

will descend with their own gravity, to any point where it may be desirable to deposit it.

The country around Cannellton, both in Kentucky and Indiana, is of a highly fertile character, and provisions of all kinds can be furnished at this place as cheap as at any other point on the Ohio and Mississippi rivers.

It is situated immediately on the bank of the Ohio, and has steam communication with all parts of the Union, at all seasons of the year. It will also shortly be in direct communication with northern Indiana: as a railway is already spoken of to run back into the interior, thereby connecting it with the great chain of railway now being constructed in this State. It is also but a short distance above the mouths of the Cumberland and Tennessee rivers, and but 250 miles from the mouth of the Ohio, and has therefore a short and direct communication, by the Tennessee river, with the cotton fields of northern Alabama, Mississippi and Tennessee; by the Cumberland river it has also a direct communication with the iron of Tennessee.

It has the hemp of Kentucky in close proximity, and has the lead, copper and iron of Missouri within 450 miles.

It has the entire South and West, within easy reach for a market, with low freights; and I will venture to say that the Cannellton cotton can be placed in Philadelphia, or Baltimore, or even in New York, to compete with the eastern manufactures.

It is peculiarly well situated as regards the health of its inhabitants—being entirely out of reach of the overflows of the Ohio, with no low lands in the neighborhood, but with lands on both sides of the river rising to a height of 300 or 400 feet. The climate is generally mild, and of about the same medium temperature as Richmond, Va.

The location of the "future city" is well selected for the purpose of obtaining a good site for buildings—as little if any grading is required.

The building material is at hand in great abundance, and of a superior quality: consisting of a fine grained sandstone of remarkable uniformity of texture. It lays in a single strata 30 feet thick above the coal, and can be quarried at a trifling cost. When first quarried, it readily splits into square blocks of almost any size, and can be worked as easily as wood; yet it soon hardens from exposure to the atmosphere, and becomes as hard as granite, making the best building material I know of. Timber abounds on the hills in the rear of the village. Limestone of a superior quality, and in abundance, is also found overlaying the sandstone. Clay for brick, and beds of fine sharp sand also are found in abundance at the base of the hills, and the wells at the foot of the hills afford pure freestone water in sufficient quantity for all purposes.

As regards its present aspect, it now contains, I should think, about 1500 inhabitants, and numerous buildings are erecting to accommodate the rapidly increasing population.

The "Cannellton cotton mill" is an immense cut stone building, 262 feet long, 65 feet wide, and four stories high. It will contain 10,600 spindles, will give employment to about 400 operatives, and will be in operation in May or June next.

The Indiana cotton mill to contain 2000 spindles is also in progress. There is also a large church, school houses, nearly 200 dwelling houses, several stores and three saw mills. Various branches of trade are also carried on, and last though not least, is a newspaper, called the Economist—one of the best papers published in the West.

A splended cut stone hotel is also in course of erection, to be done early in the summer, that will cost twelve or fifteen thousand dollars. In short, buildings of all kinds, both stone and wood, are rapidly springing up in all directions.

The company possess here a tract of about 7000 acres of land, 5000 acres of which are underlaid with one or more seams of coal; they however, with a true knowledge of their own interest, grant every facility to a person going there to reside. They will dispose of building lots at a mere nominal value, and give to all purchasers who are actual settlers, the right to use, for building purposes, from the company's lands, timber, stone, clay and sand, free of charge; and also give to parties now settling there, the right to use the coal at a rent of one cent per bushel for 25 years.

The company have also procured from the Indiana Legislature, 12 distinct charters for manufacturing companies to manufacture all kinds of goods; two of which, the "Cannellton cotton mill" and the "Indiana cotton mill" are already taken up.

This place has already attracted the attention of the wealthy and far-seeing men of this part of the Union, and also many men east of the mountains, and the two companies already formed consist, I am informed, of the wealthiest and most intelligent men of the South and West. The whole place, in fact, bears an air of enterprise that is rarely seen in any section of the country; and I have no doubt that in a few years Cannelton will rival if not outstrip the great manufacturing cities of Lowell, Manchester, Lawrence and Pittsburg. As a field for a mechanic, or a company of mechanics, I know of no place in the Union that possesses the same advantages that Cannelton does, and any one interested, or desirous of being interested in manufactures of any sort, will do well to visit Cannelton before settling elsewhere. R.

RAILROAD ALONG THE SOUTH SHORE OF LAKE ERIE.

The construction of a railroad from Buffalo to Toledo is now occupying the attention of the people along its line, and bids fair to be completed at an early day.

The length of line from Buffalo to Toledo is 288 miles, and is divided into sections, and is under various stages of progress, as follows:

From Buffalo to the Pennsylvania line, 70 miles, an efficient company is organised, a considerable portion of the stock subscribed, the surveys made, the line located, and soon to be put under contract.

From Erie to the Ohio line, 20 miles, the charter failed last year, by the Governor not affixing his signature to the bill, but the company have organised under another charter, and the road is already under contract.

From the Pennsylvania line to Cleveland, 75 miles, a company is organised, and subscriptions are being taken up on the road.

From Cleveland to Sandusky, 55 miles, and from Sandusky to Toledo, 50 miles, the road is under the control of the Mad River and Lake Erie railroad company, and will be completed as soon as the rest of the road is ready, as it will be for their interest to do so, and thus a communication with the roads of the East on the one hand and the Western railroads on the other, will be opened to them.

"The entire Lake shore road is therefore certain of construction within a reasonable time."

Thence, further on, from Toledo and Monroe to Hillsdale, 68 miles, the road is already in operation, and from Hillsdale to Coldwater, 22 miles, the road is under contract to be finished by Sept. 1st.

From Coldwater to Chicago the distance is 158 miles, making the whole distance from Buffalo to Chicago 538 miles.

Between Laporte and Michigan City the engineers are in the field. From Michigan to the Illinois line the road will be located by April 1st.

From that point to Chicago the road will be constructed under the general law of Illinois.

POWER OF A BUSHEL OF COALS.

It is well known to engineers that there is a virtue in a bushel of coals, properly consumed, to raise seventy millions of pounds weight a foot high. This is actually the average effect of an engine at this moment working at Huel Towan, in Cornwall. Let us pause a moment, and consider what this is equivalent to in matters of practise. The ascent of Mont Blanc, from the valley of Chamouni, is considered, and with justice, as the most toilsome feat that a strong man can execute in two days.—The combustion of two pounds of coal would place him on the summit. The Menai bridge, one of the most stupenduous works of art that has been raised by man in modern ages, consists of a mass of iron, not less than four millions of pounds in weight, suspended at a medium height of 170 feet above the sea. The combustion of seven bushels of coal would suffice to raise it to the place where it hangs. The pyramid of Egypt is composed of granite. It is 700 feet in the side of the base, and 500 in perpendicular height, and stands on 11 acres of ground. It weight is therefore 12,760 millions of pounds, at a medium height of 125 feet; consequently it would be raised by the effort of about 360 chaldrons of coal—a quantity consumed in some foundries in a week. The annual consumption of coal in London is estimated at 1,500,000 chaldrons. The effort of this quantity would suffice to raise a cubical block of marble, 2200 feet in the side, through a space equal to its own height, or to pile one such mountain upon another. The Monte Nuovo, near Pozzoli, which was erupted in a single night by volcanic fire, might have been raised by such an effort, from a depth of 40,000 feet, or about eight miles.—*Working Men's Friend.*

ON THE CONSTRUCTION OF ROADS.

Rapidity, safety, and economy of carriage are the objects of roads. They should therefore be so located and constructed as to enable burdens, of goods and of passengers, to be transported from one place to another, in the least possible time, with the least possible labor, and, consequently, with the least possible expense.

To attain these important ends, a road should fulfil certain conditions, which the nature of the country over which it passes, and other circumstances, may render impossible to unite and reconcile in one combination; but to the union of which we should endeavor to approximate as nearly as possible in forming an actual road upon the model of this ideally perfect one. We will therefore investigate—

WHAT ROADS OUGHT TO BE,

1. *As to their direction.*
2. *As to their slopes.*
3. *As to their cross-section.*
4. *As to their surface.*
5. *As to their cost.*

1. WHAT ROADS OUGHT TO BE AS TO THEIR DIRECTION.

Importance of Straightness.

Every road, other things being equal, should be *perfectly straight*, so that its length, and therefore the time and labor expended in travelling upon it, should be the least possible; *i. e.*, its *alignements*,

or direction, departing from one extremity of it, should constantly tend towards the other.

Advantages of Curving.

The importance of making a road as *level* as possible will be explained in the next section, and as a road can in few cases be at the same time straight and level, these two requirements will often conflict. In such cases, *straightness should always be sacrificed to obtain a level, or to make the road less steep.* This is one of the most important principles to be observed in laying out or improving a road, and is the one most often violated.

A *straight* road over an uneven and hilly country may, at first view, when merely seen upon the map, be pronounced to be a *bad* road; for straightness must have been obtained either by submitting to steep slopes in ascending the hills and descending into the valleys, or these natural obstacles must have been overcome by incurring a great and unnecssary expense in making deep cuttings and fillings.

A good road should wind around these hills instead of running over them, and this it may often do without at all increasing its length. For if a hemisphere (such as half a bullet) be placed so as to rest upon its plane base, the halves of great circles which join two opposite points of this base are all equal, whether they pass horizontically or vertically. Or let an egg be laid upon a table, and it will be seen that if a level line be traced upon it from one end to the other, it will he no longer than the line traced between the same points, but passing over the top. Precisely so may the curving road around a hill be often no longer than the straight one over it; for the latter road is straight only with reference to the vertical plane which passes through it, and is curved with reference to a horizontal plane; while the former level road, though curved as to the vertical plane, is straight as to a horizontal one. Both lines thus curve, and we call the latter one straight in preference, only because its vertical curvature is less apparent to our eyes.

The difference in length between a straight road and one which is slightly curved is very small. If a road between two places ten miles apart were made to curve so that the eye could nowhere see farther than a quarter of a mile of it at once, its length would exceed that of a perfectly straight road between the same points by only about one hundred and fifty yards.*

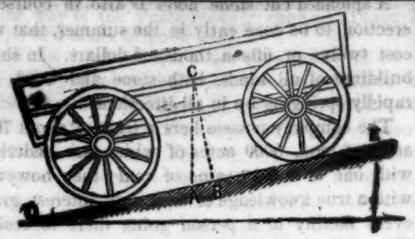
But even if the level and curved road were very much longer than the straight and steep one, it would almost always be better to adopt the former; for on it a horse could safely and rapidly draw his full load, while on the other he could carry only part of his load up the hill, and must diminish his speed in descending it. As a general rule, the horizontal length of a road may be advantageously increased, to avoid an ascent, by at least twenty times the perpendicular height which is to be thus saved; that is, to escape a hill a hundred feet high, it would be proper for the road to make such a circuit as would increase its length two thousand feet.* The mathematical axiom that "a straight line is the shortest distance between two points," is thus seen to be an unsafe guide in road-making, and less appropriate than the paradoxical proverb that "the longest way around is the shortest way home."

2. WHAT ROADS OUGHT TO BE AS TO THEIR SLOPES,

Loss of Power on Inclinations.

Every road should be *perfectly level.* If it be not, a large portion of the strength of the horses which travel it will be expended in raising the load up in the ascent. When a weight is drawn up an inclined plane, the resistance of the force of gravity, or the weight to be overcome, is such a part of the whole weight, as the height of the plane is of its length. If, then, a road rises one foot in every twenty of its length, a horse drawing up it a load of one ton is compelled to actually lift up one-twentieth of the whole weight, *i. e.*, one hundred pounds, through the whole height of the ascent, besides overcoming the friction of the entire load.

Let DE represent the inclined surface of a road upon which rests a wagon, the centre of gravity of



which is supposed to be at C. Draw CA perpendicular to the horizon, and CB perpendicular to the surface of the hill. Let CA represent the force of gravity, or the weight of the wagon and its load.—It is equivalent, in magnitude and direction, to its two rectangular component forces, CB and BA. CB will then represent the force with which the wagon presses on the surface of the road, and AB the resisting force of gravity, *i. e.*, the force (independent of friction) which resists the ascent of the wagon, or which tends to drag it down hill.

To find the amount of this force, from the two similar triangles, ABC and DEF, we get the proportion

$$CA : AB :: DE : EF.$$

Representing the *length* of the plane by l, its *height* by h, and the *weight* of the wagon and load by W, this proportion becomes

$$W : AB :: l : h,$$

whence $AB = W\frac{h}{l}$; that is the resistance of gravity due the inclination, is equal to the whole weight, multiplied by the height of the plane and divided by its length. If the inclination be one in twenty, then this resistance is equal to 1-20 W.

In this investigation, we have neglected three trifling sources of error; arising from part of the weight being thrown from the front axles to the hind ones, in consequence of the inclination of the traces; from the diminution of the pressure of the weight, owing to its standing on an inclined surface; and from the hind wheels bearing more than half of the pressure, in consequence of the line of gravity falling nearer them.

The results of experiments fully confirm the deductions of theory as to the great increase of draught upon inclinations. The following table exhibits the force required to draw a stage coach over parts of the same road, having different degrees of inclination:

Inclination.	Force of Draught Required— At 6 mls. per hour.	At 8 mls. per hour.	At 10 mls. per hour.
1 in 20	268	296	318
1 in 26	213	219	225
1 in 30	165	196	200
1 in 40	160	166	175
1 in 600	111	120	128

Putting into a different form the results of these and other experiments, we establish the following data:

Calling the load which a horse can draw on a level 1·00, on a rise of 1 in 100 a horse can draw only 90
" 1 in 50 " " " .81
" 1 in 44 " " " .75
" 1 in 40 " " " .72
" 1 in 30 " " " .64
" 1 in 26 " " " .54
" 1 in 24 " " " .50
" 1 in 20 " " " .40
" 1 in 10 " " " .25

In round numbers, upon a slope of 1 in 44, or 120 feet to the mile, a horse can draw only three-quarters as much as he can upon a level; on a slope of 1 in 24, or 220 feet to the mile, he can draw only half as much; and on a slope of 1 in 10, or 528 feet to the mile, only one-quarter as much.

This ratio will, however, vary greatly with the nature and condition of the road; for, although the actual resistance of gravity is always *absolutely* the same upon the same inclination, whether the road be rough or smooth, yet it is relatively less upon a rough road, and does not form so large a proportional share of the whole resistance.

Thus, if the friction upon a road were such as to require, upon a level, a force of draught equal to one-fortieth of the load, the total force required upon an ascent of 1 in 20, would be $\frac{1}{40}+\frac{1}{20}=\frac{3}{40}$. Here then the resistance of gravity is two-thirds of the whole.

If the road be less perfect in its surface, so that its friction $=\frac{1}{20}$, the total force upon the ascent will be $\frac{1}{20}+\frac{1}{20}$; and here then the resistance of gravity is one-half of the whole.

If the friction increase to one-tenth, the total resistance is $\frac{1}{10}+\frac{1}{20}=\frac{3}{20}$: and here, gravity is only one-third of the whole.

We thus see that on a rough road, with great friction, any inclination forms a much smaller part of the resistance than does the same inclination on a smooth road, on which it is much more severely felt, and proportionally more injurious; as the gaps and imperfections which would not sensibly impair the value of a common knife, would render a fine razor useless.

The loss of power on inclinations is indeed even greater than these considerations show, for, besides the increase of draught caused by gravity, the power of the horse to overcome it is much diminished upon an ascent, and in even a greater ratio than that of man, owing to its anatomical formation and its great weight. Though a horse, on a level, is as strong as five men, yet on a steep hill it is less strong than three; for three men, carrying each 100 lbs., will ascend faster than a horse with 300 lbs.

Inclinatious being always thus injurious, are particularly so, where a single steep slope occurs on a long line of road which is comparatively level. It is, in that case, especially important to avoid or to lessen this slope, since the load carried over the whole road, even the level portions of it, must be reduced to what can be carried up the ascent.—Thus, if a long slope of 1 in 24 occurs on a level road, as a horse can draw up it only one-half of his full load, he can carry over the level parts of the road only half as much as he could and should draw thereon.

The bad effects of this steepness are especially felt in winter, when ice covers the road, for the slippery surface causes danger in descending, as well as increased labor in ascending. The water of rains, also, runs down the road and gullies it out, destroying its surface, and causing a constant expense for repairs, oftimes great enough to pay for a permanent improvement.

The loss of power on inclinations being so great as has been shown, it follows that it is very important never to allow a road to ascend or descend a single foot more than is absolutely unavoidable.—If a hill is to be ascended, the road up it should nowhere have even the smallest fall or descent, for that would make two hills instead of one; but it should be so located and have such cuttings and fillings, as will secure a gradual and uninterrupted ascent the whole way.

In this point engineering skill can make wonderful improvements. Thus, an old road in Anglesea, laid out in violation of this rule, rose and fell between its extremities, 24 miles apart, a total perpendicular amount of 33,540 feet; while a new road laid out by Telford between the same points rose and fell only 2,257 feet; so that 1,283 feet of perpendicular height is now done away with, which every horse passing over the road had previously been obliged to ascend or descend with its load.—The new road is, besides, more than two miles shorter. Such is one of the results of the labor of a skilful road-maker, and many such improvements might be made in our American roads.

Undulating Roads.

There is a popular theory that a gentle undulating road is less fatiguing to horses than one which is perfectly level. It is said that the alternations of ascent, descent, and levels call into play different muscles, allowing some to rest while the others are exerted, and thus relieving each in turn.

Plausible as this speculation appears at first glance, it will be found on examination to be untrue, both mechanically and physiologically; for, considering it it in the former point of view, it is apparent that new ascents are formed which offer resistances not compensated by the descents; and in the latter, we find that it is contradicted by the structure of the horse. The question was submitted by Mr. Stevenson* to Dr. John Barclay of Ed-

* Sganzin, p. 89.

* This proportion depends on the degree of friction assumed, a subject to be investigated in the following section.

* Report of the Edinburgh Railway.

inburgh, "no less eminent for his knowledge, than successful as a teacher of the science of comparative anatomy," and he made the following reply:—"My acquaintance with the muscles by no means enables me to explain how a horse should be more fatigued by travelling on a road uniformly level, than by travelling over a like space upon one that crosses heights and hollows; but it is demonstrably *a false idea*, that muscles can alternately rest and come into motion in cases of this kind."

To be continued.

New York, March 12, 1850.

EDITORS R. R. JOURNAL:

The daily papers this morning announced another locomotive explosion, on the Troy and Schenectady road. This is the second event of the kind in this immediate vicinity within as many weeks. There is a cause for these things, and it should be ferretted out. We cannot recall the the past, or recussitate the dead; but we certainly can guard the future, and protect the living.

How the recent accident occurred the public is not advised; probably the fireman, if he should recover of his wounds, may be able to give some explanation. It will be rare, however, if he give the true one, if that involves either himself or the engine driver. The cause of the other explosion—I refer to that at Whitehill, on the Camden and Amboy road—is fully explained; and it had its origin in an evil, that I have often witnessed, and against which those in charge of railroads are imperiously called upon to guard. In that case, an engine driver who had formerly been upon the road, and an acquaintance of the man in charge of the machine, was, in accordance with a very bad custom, passing over the road, on the engine—it being to him a privileged push—of course there was the machine to be talked about, there were old times to be revived and discussed, old acquaintances to be enquired after, and old scenes to be reviewed and their merriment to be gone over again. In all this gossip the engine driver became interested, and forgot, for the moment, that the water in his boiler was going down, until startled by a sudden recollection, he finds it far below the safety point. In an instant both pumps are put on, and two streams of cold water are thrown in upon red hot iron. Quick as thought, the accumulated steam, rushing through the valve, starts off the machine at the rate of 60 miles an hour; the engine man is startled, and does the very worst thing possible—he closes the throttle valve, and with it the only apperture for steam escapement; in an instant there is an explosion, and he, his crony, and his fireman are in eternity. This is the simple history; any man can read it; I have seen its workings upon my own road oftentimes, but fortunately no such catastrophe has followed.

The same evil may and will result from too much intimacy between enginemen and firemen. They frequently have too much to gossip about while in the discharge of duty; and I venture the prediction that after this manner has the "Boston" been exploded on the Troy road.

There is a remedy, and it is a simple one. The privilege claimed by engine men and firemen of travelling over roads on the engines, should be entirely abolished. Give such the freedom of the road, if you please, in the train: but keep them off the engines. Public safety absolutely requires it. The engine driver holds the lives and limbs of his passengers in the hollow of his hand. He has the charge of a piece of workmenship as nice and delicate almost as the human form. It requires his constant attention, and with the track, his unceasing watchfulness and vigilance. There should, therefore, be no one about him to distract his attention with other things. Even his fireman should not interrupt him, while running, save with a question as to duty; and that as seldom as practicable. He should not converse with his fireman, except to give him a necessary order. There is time enough when off duty for conversation; it is dangerous on the footboard.

I trust that conductors of railroads will appreciate and apply a prompt remedy to this evil. It is not a new thing to me. I have noticed it often, and reflected much upon it. On my own road I have given strict orders to guard against it; but these are sometimes broken over, and always denounced, because they contravene *a custom* that enginemen and firemen have established, and do not like to surrender. But it must be abolished, or we shall have more such scenes to record, with probably more disastrous results. I respectfully call upon those in charge of roads to abolish this privilege a once; and in addition to that, to promulgate strict rules of non-intercourse between engine men and firemen, while on the road, so that it shall become every where a fixed principle of duty. We must co-operate in these things—these that seem *small things*—in the regulations of our roads, and then we shall have advanced another step or two in the preservation of life and property.

Yours truly,

A WESTERN RAILROAD MAN.

Massachusetts.

Eastern Railroad.

We are indebted to Mr. Neal, President of the Eastern railroad, for an interesting statement of the income and expenditures of that road for the year ending Dec. 31, 1849, and of the position of the capital of the corporation and the construction accounts of that date.

The total income was: from 1,049,114 passengers (824,121 of which on the main road) $404,071 68; from 70,348 tons freight (61,440 of which on main road) $63,912 79; parcel post, $6,489 26; mail, $8,324 00; miscellaneous, $8,345 92; from property (East Boston ferry and lands, Portsmouth Bridge, &c.,) $26,085 52. Total, $517,229 17.

The expenses were as follows: machine shop, $1,842 83; maintenance of way, $35,719 21; locomotive power, $67,904 63; train expenses, $28,325 86; office establishment, $18,303 66; station expenses, $22,732 41; ferry, $7,665 55; mail, $786 05, Total, $183,280 20—making the net income $333,948 97, of which $25,706 08 was applied to interest, and $259,724 00 to dividends—leaving a surplus of $48,518 89.

There was a surplus in 1848 of 136,135 72, which added to above makes 184,654 61. Deducting from this sum 21,804 01 for renewal, damages, and accidents, and 37,180 84 for difference between cost of laying eight miles of new rails and value of old rails sold, and the actual surplus, Dec. 31st, 1849, was 125,667 76.

The number of miles run in 1849 was 278,573, (of which by passenger trains 216,686) at an expense of 66 4-100ths per mile.

The capital account stands thus: 26,984 shares of road in Massachusetts have been issued, and 1,516 are on hand; 4925 shares of road in New Hampshire have been issued—making in all 33,425 shares at $100—whole capital $3,842,500.

The construction account shows the cost of the road as follows: main line in Massachusetts, (38,201 miles) 2,300,212 95, or 60.212 per mile; Marblehead branch (3 miles) 55,843 05, or 18,614 do Gloucester branch (13.108 miles) 341,205 20, 29,037 per mile; Salisbury branch, (3.779 miles) 80,012 88, or 21,173 per mile; road in New Hampshire (16.553 miles) 493,082 84, or 29,788 per mile; equipment of road 341,991 19—making total cost, $3,612,348 21.

This statement shows a balance of capital over the cost of 230,151 79; to which are added the surplus income, as above, 125,669 76, and teaming establishment and gravel account profits, 3,965 22—giving the actual amount of receipts over construction, 359,786 77, which is invested in East Boston depot estate, lands, ferry stock, Portsmouth bridge stock, Essex railroad stock and bonds [74,169 32] and Grand Junction do. [52,123 37.]

The debt of the company not funded is as follows: dividends payable Jan. 1850, 127,636 00; do. in former years not called for, 2,120 19; notes payable, 269,667 03; balance reserved on contracts, 315 10—total, $399,748 32. To meet this debt the company hold notes receivable, stock on hand, balances due income, Penobscot Navigation stock, company's stock, [1.516 shares, stated above as unsold] old rail, cash, etc., estimated at the full am't. of the debt.

Cleveland, Ohio.

This beautiful city of the lakes is at the present time in the enjoyment of an unusual degree of actual and prospective prosperity. Her canal and lake commerce—her railroads which will soon connect her with the eastern, western, and southern portions of the Union—her plank roads, which are "penetrating the interior" and furnishing to the neighboring towns and villages the means of easy access to market and trade—her teleraphs, healthful climate, elegant public and private residences, tasteful grounds, beautiful groves and parks, and generous hospitalities, are rapidly concentrating in the "Forest City," a numerous, enterprising and enlightened population.

Cleveland will soon have a railway connection, south with Columbus and Cincinnati—a railway connection west with Toledo, Chicago, and with the chief towns in northern Indiana and Illinois—a railway connection with Pittsburgh and Philadelphia, and another railway connection with Buffalo, uniting with New York and Erie railroad at Dunkirk, and the associated railroad companies through the interior of the Empire State—thus furnishing her with iron roads west to the Mississippi; south to the Ohio: east to Philadelphia, New York and Boston.

Cleveland is the great depot of the coal of northern Ohio, which, in connection with the limitless facilities she will soon enjoy, for trade and commerce, must make her the most desirable locality for manufacturing establishments of all kinds, in the northwest; and men of capital and enterprise are already directing their attention thitherward.

In addition to these and numerous other business facilities, Cleveland is the most desirable town in the "great west" *to live in*. The town is clean, tasteful, elegant and healthful; for vegetables, fruit and flowers it is pre-eminent—for groves, parks, ornamental trees and shrubs, it is hardly surpassed by New Haven—and these attractions have drawn and will continue to draw hundreds and thousands thither—simply as the most comfortable and desirable place to live in. Her public and private schools are excellent—her Medical College, superior to any in the west, and the prevailing character of her society, educational, moral and religious—it is therefore "just the spot" for the man of moderate income to live and educate his family. The population of Cleveland is now nearly 20,000—in ten years it will not be much less than 50,000.—*Cin. Gaz.*

Illinois.

The subscriptions to the Rock Island and La Salle railroad reach $292,000. Only $300,000 is needed. The Chicago Journal says:

The expense of building the road has generally been estimated at $10,000 per mile—the cost of the Galena road, 25 miles out, having been $6,000 per mile. So level is the ground between Rock Island and Peru, that the greatest ascent per mile does not exceed 15 feet, and generally ranges at from four to five feet.

Virginia.

The work of constructing the Orange and Alexandria railroad was commenced at Alexandria on the 4th inst.

Alabama.

In Pensacola, 200,000 dollars have been subscribed to the railroad from that point to Montgomery, Ala.

The New Orleans papers are discussing a project for connecting New Orleans with the great lines of railroads running north. A charter for a road from Girard on the Chattahooche river, opposite Columbus, Georgia, to some point on Mobile bay, has been resuscitated and an attempt is making to get the stock taken. The route is said to be very favorable and the road [230 miles] can be made and equipped, it is stated, for $10,000 per mile.—The Bulletin says:

From the considerations of expedition and convenience, this road will monopolize the travel between New Orleans and Mobile. By the time the work is completed, the road from Columbus to Macon which is in rapid progress, will have been finished, and the road from the Central railroad, through Waynesborough to Augusta, as well as the road from Branchville on the South Carolina road to Wilmington, N. C.; and thus there will be a continuous line of railway from Mobile Bay to Boston. The following figures will show what time will be consumed in travelling between New Orleans to Charleston and Savannah:

Mobile Bay to Columbus	230 miles.
Columbus to Macon	105 "
Macon to Waynesborough	100 "
Waynesborough to Augusta	50 "
Augusta to Charleston	135 "
Total	620 "

which, at 20 miles per hour, would make the time 31 hours, or from Mobile Bay to Savannah by railroad from Macon the distance would be 526 miles, and the time 26¼ hours. Add eight hours between New Orleans and Mobile Bay, and the distance to Charleston can be accomplished in 39 hours, and to Savannah in 34 hours—so that we might with ease reach New York from the Crescent city in from 4 to 4½ days.

ATLANTIC AND ST. LAWRENCE RAILROAD.

We copy from the treasurer's books a statement of the business of this road for six months ending Dec. 20, 1849, which were as follows:

Net receipts	$72,421 57
Expense	30,306 65
Net receipts	$42,115 92

This exhibit, it will be perceived, gives a handsome net income for the business of the road, when it is taken into consideration that on the trunk line the road was in operation no further than Mechanic Falls until September, at which time it was opened for travel to Oxford, and in January to Paris Cape. Neither did it receive full receipts from the Androscoggin and Kennebec road, as this road was not in operation further than Readfield, until December, at which time it was opened to Waterville.—*Portland Advertiser.*

RAILWAY CALLS IN ENGLAND.

The "calls" payable during January, 1850, so far as advertised, amount to £1,734,279 against £3,926,342 in 1849; £4,860,220 in 1848; and £6,157,863 in 1847. The total calls during the year amount to about £20,000,000, of which £18,000,000 are for English, Irish, and Scotch, and £2,000,000 for foreign subscribed for in England. The calls in 1848 were £33,000,000; and in 1847, $42,000,000.

ALABAMA AND FLORIDA RAILROAD.

The Pensacola Democrat of the 26th ult. says: On Saturday evening last, a meeting of our citizens took place in the City Hall for the purpose of considering the propriety of the city taking $50,000 or more of the Alabama and Florida railroad. The proposition was submitted in the form of a resolution and adopted unanimously. The meeting was addresssed in advocacy of said resolution by Hon. B. D. Wright, Hon. Walker Anderson and Hon. Dillon Jordan. The meeting was an unusually large one, and much enthusiasm and zeal seemed to prevail in reference to the grand project.

STATISTICS OF THE REVENUES AND EXPENDITURES OF THE BRITISH GOVRRNMENT.

An account of the net public income and expenditure of the United Kingdom of Great Britain and Ireland in the year ending January 5, 1849, (after abating the expenditure thereout defrayed by the several revenue departments), and of the actual issues or payments within the same period, exclusive of the sums applied to the redemption of funded or paying off unfunded debt, and of the advances and re-payments for local works, &c.

INCOME OR REVENUE.

Ordinary Revenue and Receipts.

	£	s.	d.
Customs	20,999,132	3	4
Excise	14,154,054	19	9
Stamps	6,643,772	1	11
Taxes (land and assessed)	4,314,704	8	8
Property tax	5,347,364	19	9
Post office	815,000	0	0
Crown Lands	81,000	0	0
Duties on Pensions and Salaries.	4,559	5	0
Small branches, hereditary revenues of the Crown	9,202	8	9
Surplus fees of regulated public Offices	53,548	3	5
Other Receipts.			
Produce of the sale of old stores.	308,415	14	9
Repayment of sums receivd into commissariat chest at Hong Kong, out of indemnity paid by Chinese government	539.305	9	6
Imprest and other moneys	57,853	14	4
Money received from the East India Company	60,000	0	0
Unclaimed dividends (more than paid)	803	14	1
Total income	53,388,717	3	3
Excess of expenditure over income	796,419	14	6
	£54,185,136	17	9

EXPENDITURE.

Funded Debt.

Interest and management of permanent debt	23,978,113	0	9
Terminable annuities	3,795,076	10	11
Unfunded Debt.			
Interest on exchequer bills	790,327	16	0
Civil list	395,245	0	0
Annuities and pensions for Civil, Naval, Military and Judicial services, &c., charged by various acts of Parliament on the consolidated fund	509,762	5	2
Salaries and allowances	271,381	4	10
Diplomatic Salaries and Pensions	166,492	17	9
Courts of Justice	1,098,403	7	9
Miscellaneous charges on the consolidated fund	342,549	1	10
Army	6,647,284	4	7
Navy	7,922,286	19	7
Ordnance	3,076,124	0	0
Kaffir war	1,100,000	0	0
Miscellaneous, chargable on the annual grants of Parliament, including £276,377 9s. 6d. for relief of distress in Ireland	4,092,090	8	7
Total expenditure	54,185,136	17	9

The amount of the Window Duty assessed in the year ending April 5, 1848, was £1,880,325; the amount received was 1,811,742. The number of houses charged was 485,143.

The amount of excise duty on bricks in the year 1848, was £448,310.

Amount of tax on dogs for the years ending January 5, 1845, to January 5, 1849.—Years ending January 5, 1845, £137,948; 1846, £136,037; 1847, £135,590; 1848, 137,774; and 1849, £134,827.

Amount of Duty on Hops for the Year 1849.

Old duty at 1 12-20d per lb	79,791
New duty at 0¼ 8-20d. per lb	58,976
Additional duty on 5 per cent., per Act 3 Vict., c. 17	6,936
	$145,703

Net produce of the revenue of Ireland in the years ending Jan. 5, 1847, 1848, and 1849, with the expenditure of the same years:

	Years ending Jan. 5.		
	1847.	1848.	1849.
Customs	2,258,043	2,009,133	2,069,773
Excise	1,467,060	1,152,932	1,321,915
Stamps	573,767	567,996	542,924
Post Office	29,000	59,000	39,000
Miscellaneous, including repayment of advances	364,592	536,783	311,863
Total	4,692,462	4,325,844	4,275,375
Expenditure	4,781,815	4,193,542	4,294,457

Amount of the Funded Debt, Annual Interest, and the Total Charge on the same, on Jan. 5 of each year, from 1828 to 1849 inclusive.

	Total capital unredeemed.	Annual interest.	Total charge, including annuities, etc.
	£	£	£
1829	772,332,540	25,342,549	28,245,534
1830	771,251,932	25,328,976	28,285,900
1831	757,486,996	24,102,200	27,674,754
1832	755,543,884	24,038,514	27,658,299
1833	754,100,549	23,993,290	27,703,433
1834	751,658,883	23,912,748	27,782,116
1835	743,675,299	23,603,502	27,783,454
1836	758,549,866	24,054,652	28,403,305
1837	761,422,570	24,155,320	28,533,192
1838	762,275,188	24,165,256	28,524,739
1839	761,347,690	24,135,180	28,585,503
1840	766,547,684	24,290,241	28,748,794
1841	766,371,725	24,283,940	28,556,324
1842	772,530,758	24,444,231	28,701,458
1843	773,068,340	24,459,843	28,609,708
1844	772,169,092	24,432,020	28,516,882
1845	769,193,644	23,719,148	27,839,244
1846	766,672,822	23,642,677	27,702,880
1847	764,608,284	23,580,033	27,603,224
1848	772,401,851	23,813,746	27,753,663
1849	774,022,638	23,862,257	27,699,740

Account of the articles now subjected to excise duties in Great Britain with the rates of duty.

Bricks, small, 5s. 10d. per 1000, and 5 per cent.
" large, 10s. per 1000, and 5 per cent.
Hops, 2d. per lb., and 5 per cent.
Malt, from barley, in England and Scotland, 2s. 7d. per bushel, and 5 per cent.
Malt, from Bere or Bigg, in Scotland, 2s. per bushel, and 5 per cent.
Paper, 1½d. per lb., and 5 per cent. on all kinds of paper.
Soap, hard, 1½d. per lb., and 5 per cent.—Soft, 1d. per lb., and 5 per cent.
Spirits, in England, 7s 10d per gallon.
" in Scotland, 3s. 8d. per gallon.

Return of Total amount of the unredeemed funded debt, and of the unfunded debt, for the year ending Jan. 5, 1848 and 1849:

	1848.	1849.
Unredeemed funded debt.	772,401,851	774,022,638
Unfunded debt—Supplies and consolidated fund..	17,974,500	17,794,700

ABSTRACT of Colonial expenditure by Great Britain in the years 1846-7. The sums given include the Civil, Military, and Naval expenditure of each Colony, so far as paid by Great Britain.—The civil expenditure is chiefly for passage allowances for Governors and other officers, convict establishments and charges, ecclesiastical establishments, &c., (fractions omitted.)

Military and Marine Stations.

Gibraltar	179,073
Malta	106,996
Cape of Good Hope	685,444
Mauritius	90,591
Bermunda	73,628
St. Helena	25,668
Ionian Islands	85,044
Falkland Islands	1,186
Hong Kong	94,600

Plantations and Settlements.

Jamaica, Bahamas, and Honduras	189,626
Other West India Islands and Guiana	307,060
Canada	474,789
Nova Scotia, New Brunswick, Prince Edward's Island and Newfoundland	170,464
Sierra Leone, Gambia, and Cape Coast	42,690
Ceylon	83,470
Western Australia	7,513
Southern Australia	4,588
Northern Australia	1,876
New Zealand	84,494

Penal Settlements.

New South Wales	79,196
Van Dieman's Land	92,182
General Charges	46,091
Total	2,928,069

LENGTH OF SEACOAST OF THE UNITED STATES.

From the report of the commissioner of the General Land Office, we obtain the data for the following statement, exhibiting the length of the seacoast of the United States:

	Miles.
From the northern limits of the U.S. to the Cape of Florida, on the Atlantic Ocean	1,900
From the Cape of Florida to the mouth of the Rio Grand, on the Gulf of Mexico	1,600
From the boundary point one league south of the port of San Diego, on the Pacific, along the coast of Oregon and the Straits of Fuca, to the boundary point 49° north latitude	1,620
Making together the length of seacoast on the Atlantic, Gulf, and Pacific	5,120
Or a "shore line" following the irregularities of the shore and sea islands, according to an estimate of the Superintendent of the Coast Survey, of	33,063

The Lake Country Coal Trade.

The following statement relative to the coal trade of the lakes, is condensed from the Buffalo Commercial:

The lake markets are supplied with anthracite and bituminous coals. The anthracite is from Schuylkill, Lehigh and Lackawanna counties, Pa., chiefly conveyed from Philadelphia by sea to Albany, the Erie, Champlain and Oswego canals to the lake country. In this market, this kind of coal can be furnished for $7 per ton. It is used by our iron makers for casting. Bituminous coal, of which large quantities reach the lakes, is obtained from several sources in different States. This coal is made use of here for smithing and fuel; and is sold at $6 a ton.

The quantity of anthracite and Blossburg coal delivered at Buffalo, by the Erie canal, in 1849, was 13,367,595 pounds, and at Oswego 6,608,422 pounds.

Large quantities of bituminous coal are obtained from coal fields in the northwestern part of Pennsylvania, 60 to 80 miles south of Lake Erie. This coal is of superior quality, and is extensively used by boats and other machinery driven by steam, as well as for smithing and domestic purposes, large supplies reach Erie. Bituminous coal is also obtained in Ohio from beds lying along the line of the Ohio canal and eastward from the Lake 50 to 80 miles. This coal is preferred by many to the Erie coal. Neither of these coals are as highly bituminous as the Blossburgh. In 1849, 1,910,474 bushels were received at Cleveland. It is sold at the same rate as at Erie, from $2 50 to $3 per ton. Erie and Cleveland coal is worth in Buffalo $4 per ton.

From Erie to Cleveland, it is freighted at cheap rates by vessels which fill up their cargoes with this description of loading. Canadian ports are largely supplied with this article. In 1848, the shipment of coal from Cleveland to American and Canadian ports was 131,200 tons.

Another source of supply is the beds lying on the line of the Michigan and Illinois canal in Illinois, distant from Chicago to Lake Michigan, 60 to 80 miles. This canal was opened in 1848, but little coal came to market that year. In 1849, 5,150 tons reached Chicago. The upper part of these beds furnish coal highly charged with sulphur, which confines the use of it principally to household purposes, for its being so destructive to grate bars and boilers. But the quality of the coal is improving the deeper the beds are worked, and the prospect is, that this coal will very soon be as free from this objectionable matter as the Cleveland and Erie.

RATES OF TOLL OF THE SCHYLKILL NAVIGATION COMPANY.

Office of the Schuylkill Navigation Co.,
March 7, 1850.

Notice is hereby given that the rates of toll and the use of cars for anthracite coal transportation on the Schuylkill Navigation for the year 1850 will be as follows:

To be charged Per Ton of 2240 Pounds.

The weight to be ascertained by such means as may be adopted to secure accuracy, and five per cent. allowance to be made therefrom for loss by wastage. The toll for all coal, including the use of cars, coming from the several points, to be charged as per the following table:

☞ No charge less than twenty-five cents per ton shall be made for toll and the use of cars for any distance.

	FROM			
	Pt. Carbon. Cts. per ton.	Mt. Carbon. Cts. per ton.	Schuylkill Haven, do.	Pt. Clinton. Cts. per ton.
To Orwigsburgh Landing	25	25	25	—
Hamburg	25	25	25	25
Mohrsville	36½	35	32	25
Althouses	41½	40	37	28
Reading	46½	45	42	33
Birdsborough	51½	50	47	38
Port Union	51½	50	47	38
Pottstown Landing	56½	55	52	43
Royer's Ford	56½	55	52	43
Phenixville	61½	60	57	48
Lumberville	61½	60	57	48
Pawling's Dam	61½	60	57	48
Valley Forge	61½	60	57	48
Port Kennedy	66½	65	62	53
Norristown and Bridgeport	66½	65	62	53
Plymouth Dam	66½	65	62	53
Conshebocken	71½	70	67	58
Spring Mill	71½	70	67	58
Manayunk	76½	75	72	63
Philadelphia	76½	75	72	63

The Navigation is now open for use between Philadelphia and Reading, and boats will be cleared at Port Clinton and Schuylkill Haven on the 11th inst., and at Pottsville and Port Carbon on the 15th inst.

By order of the Managers,
T. FRAILEY, President.

VERMONT VALLEY RAILROAD.

At a meeting of the stockholders of this company, held at Bellows Falls, the following gentlemen were chosen directors for the year ensuing, viz:—Charles Chapin, Brattleboro'; Horace Brooks, N. York; P. R. Chandler, Putney; Hugh H. Henry, Chester; Franklin Evans, Boston; Charles Paine, Northfield; Charles Linsley, Middlebury. Dr. Chapin declined serving longer as President, and Hugh H. Henry, of Chester, was chosen in his place. Robert Schuyler, of New York, was chosen Treasurer, and B. D. Harris, Clerk.

Vermont.

Rutland and Washington Railroad.—The annual meeting of the stockholders of this company was held at Poultney a few days since, and the following gentlemen were elected directors: Merritt Clark, Henry Stanley, Poultney; Horace Clark, Middletown; John Bradley, Timothy F. Strong, Burlington; N. H. Graves, Granville; and M. G. Langdon, Castleton.

The work is proceeding rapidly, and is expected to be opened for business from Rutland to Poultney early next summer. A New York corporation called the Troy and Rutland railroad company has been formed under the law of that state, and we learn that the stock has been taken, and contracts are about to be or have already been entered into for the construction of the road from the termination of the Rutland and Washington, (at the state line in Salem we believe) to Eagle Bridge, on Hoosic river, twenty-two miles north from Troy. From this point it is the intention of the company to reach Troy either by an independent track, or by the Troy and Greenfield (Troy and Boston) road, the friends of which intend to push it forward with all practical despatch. The distance from Rutland to Eagle Bridge is about fifty-seven miles.

The Railroad Journal.

The American Railroad Journal was the earliest work published in any part of the world devoted to the railway interest. In its pages is to be found the only full and complete history of railway progress, the only authentic record of the discoveries and improvements which the greatest of practical science has drawn forth and perfected.

The means of enhancing its value under its present proprietorship are far greater than when we assumed its charge about one year ago. It will continue to furnish the best practical results as to the construction and working of railroads, the details of progress in steam navigation, commerce, mining, manufactures, banking and the mechanic arts.

The best practical talent that can be enlisted in the country is engaged to supply its pages. The mining interest will find evidence of the first systematic attempt to give a full view of the iron, copper and lead ores of the country, with the results of practical working. In all the branches of mechanical industry we seek to discard the crude conceits of unskilled pretension, the thousand useless novelties issuing from the Patent Office, and to give encouragement to whatever can be made useful in relieving the wants, in ministering to the pleasures, or contributing to the advancement of the race.

We invite contributions to its pages from all who sympathise in our labors, information in any form from those most interested in the progress of mechanical invention, and substantial support from

all who are willing to aid us in the arduous duties of our position.

AMERICAN RAILROAD JOURNAL.

Saturday, March 16, 1850.

United States Railroad Guide and Steamboat Journal.

CONTAINING OFFICIAL TIME ADVERTISEMENTS, Tables of Stations, Distances, Fares, Time, etc., with much miscellaneous matter for the travelling public. Price 12 cents a copy. Yearly subscription $1. Published at 43 Ann street, New York.

Back Volumes of the RAILROAD JOURNAL

From its commencement can be had on application to this office.

ROADS AND RAILROADS.

We commence this week the publication of such extracts from a work on "Roads and Railroads,"* as may be useful to those engaged in this important branch of industry, with such illustrations as may assist to an easy understanding of the text.—As they are from a work of great merit, they cannot fail to be valuable to our readers.

* A Manual of the Principles and Practice of Road Making: comprising the *location, construction* and *improvement of roads, (common, Macadam, paved, plank, etc.)* and *railroads*, by WM. M. GILLESPIE, A.M. C.E., Professor of Civil Engineering in Union College. Published by A. S. Barnes, 51 John St., New York. We have had occasion to speak of this excellent work, which should be in the hands of every person engaged in road making. It is a lucid statement of all the abstract principles which lie at the foundation of the various kinds of roads, with a practical application of them. It may serve equally as a guide in the studies of the closet, as well as in working in the field.

CONTRACTORS

Are requested to notice the Advertisements of the Orange and Alexandria Railroad, and the Queenston Bridge Co.

NOTICE TO SUBSCRIBERS.

Such of our Subscribers as wish for back numbers of our paper to complete their sets, or who may not have received the index of the past year, are requested to send for them without delay.

Lake Superior Copper Region.

Miners and others about to visit the upper lakes the coming season are invited to examine the advertisement of C.A.Trowbridge in another column.

Coal Trade of London.

We conclude this week an elaborate article upon the Coal Trade of England. It is very interesting, as presenting a distinct view of the operations of a business, the object of which is to supply an empire with fuel; and as illustrating, in a very forcible manner, the social and economical condition of things in that country. The tax wrung from the coal at every step of its journey from the moment that it is mined, to the time when it reaches the grate for consumption, presents a striking contrast to the entire freedom of trade in this country. This subject is a good illustration of the real condition of the doctrine of free trade in England. The great evil of the state of things which this article quoted presents, is, that those who are the recipients of this tax on coal are so many persons added to the list of non-producing classes, and their support is an additional burden upon the productive industry of the country. But few useful hints can be gathered from the system which prevails in England, instructive to the trade here. When we come to the matter of mining, the case will probably be different. We hope to be able soon to obtain a succinct statement of the mining operations in Great Britain. In the mean time will not some of our subscribers in Pennsylvania and other portions of the country, furnish us with a history of mining operations in the United States.

Minifie's Text Book of Drawing.

This work upon "Geometrical Drawing" seems to us admirably adapted to meet a want which has been felt by teachers of drawing upon scientific principles. To such it must prove an efficient assistant. But this is not its only recommendation, for it seems to us that a student may, by a careful study and practice of its rules, attain excellence as a draughtsman without the aid of a master.—To learn to draw accurately and with ease requires patient application and long practice, but so great is the advantage resulting from the requirement of this art to men in all stations that no young man should consider his education complete without it, and an evening or two in each week passed with such an agreeable and instructive companion as Mr. Minifie's book would be most profitably employed.

Influences of High Taxes upon the Manufacturing Interests of Great Britain.

We have collected the table of statistics to be found in another part of this week's paper from authentic sources, not only as useful and interesting information touching the financial condition of Great Britain, but as having an important bearing upon the question as to which country, Great Britain or the United States, is to be the successful rival in the contest to see which is to be the manufacturer for the rest of the world. In this branch of industry the former power has no rival in Europe, and what has given to that country its vast wealth, and enabled it to sustain the enormous burdens imposed by its government, its hierarchy and nobility, is to be found in the superiority of her natural advantages joined to the stable character and patient industry of her citizens and subjects, and in the early application of steam power to the arts of life.

It was estimated many years since that the steam power employed by Great Britain performed a labor equal to that of 200,000,000 men. Such has been its rapid increase since, that we may add at least 50,000,000 to the above calculation. Now, in dealing with a country where steam power was not used, the amount saved by the English manufacturer by the use of steam, was so much money made. So long as he enjoyed the monopoly with the use of steam, he could command the market, by selling his article a shade lower than it could be produced by hand power alone. Great Britain by anticipating for a long time all other countries in the use of the steam engine, for a long time monopolized the markets of the world; and the difference in cost of production, over the old way, was to a certain extent, the measure of her gains. It was this that gave her her enormous wealth and enabled her to carry on the expensive wars which accumulated her vast public debt. The question now for consideration is, can Great Britain maintain her position by the same means by which she amassed her present wealth? We think not.

The United States must be the great rival of England, in all industrial pursuits, for the reason that the inhabitants of both countries are of the same stock and possess similar characteristics; and further, because we possess in this country superior natural advantages to those which gave her the monopoly in manufacturing over every European country. We have equally cheap motive power in our coal fields and rivers, and we produce the raw material, which form the basis of all manufacturing, many of which England is compelled to import from abroad. We have an abundance of cheap food. We are a much more ingenious and inventive people. The *morale* of our population is at a much higher standard than that of England, and the productiveness of labor bears a very close ratio to the intelligence of the operative. In most of the leading elements of cheap production we stand ahead of England. The disadvantage under which we labor is to be found in the higher rate of interest and in the higher price which we are compelled to pay for labor over the English manufacturer. This disadvantage is likely to remain for a long time, and certainly would render the English manufacturer successful in the contest were not this advantage balanced by the burden imposed by his government, and the domestic institutions by which he is surrounded, and which are not felt in this country,; but which weigh so heavily upon the foreigner. From a careful survey of the whole ground, we believe that after capital shall become more plentiful, and experience shall have given us greater skill we shall successfully rival Great Britain, and drive her out of the market, and by reason of our freedom from taxation, a burden which the Englishman must continue to bear for an indefinite time to come. The charge upon the industry of that country for the national debt alone averages $140,000,000 annually, five times more than the whole ordinary expenses of our government. The annual expense of carying on the British government is about $270,000,000, against $30,000.00 for this country, or adding to this the expenses of State government say $10,000,000 more —$40,000,000. But in England the expense of supporting the general government is but a small portion of the whole burden borne by the people. The whole real estate of the kingdom is in the hands of the nobility and gentry, non-laboring and non-producing classes, and pays at a rental of $3 per year, not an extravagant estimate, about $234,000,000; added to these sums are the church tithes, poor rates, cost of supporting municipal corporations, etc., etc., making an amount annually drawn from the laboring man for the support of non-producing classes, which almost staggers credulity. The cost of supporting the institutions of both countries is to the same extent a drawback upon the profits of labor; of course, all other things being equal, the American can undersell the English manufacturer just to the extent of the difference of the sums that each are compelled to pay to support the institutions of their respective countries. Another great evil under which the Englishman labors is, that the recipients of this tax wrung from the profits of labor are just so many persons added to the non-producing classes. The strength of a country consists in an equal division of the property of the country. This is necessary to secure a vigorous race of men physically. This condition imparts to its people the highest *morale*, as, where property is nearly equally divided, the great mass are equally

removed from the enervating effects of luxury on the one hand, and degradation and want of self-respect on the other, the natural result of abject poverty. The middle classes have in all ages constituted a nation's strength and a nation's power. It was this class, the yeomanry once so numerous in England that gave her universal success in her early contests with France, which lacked to a great degree this strong arm of national defence. It is an undeniable fact, that under the present order of things, England is being divided into two great classes, the rich and the poor, at the expense of the middle class, which is losing its power to protect itself from the encroaches of the rich, and losing its ability to support the rapidly increasing persons who are coming to want. Every year witnesses the circle of landed proprietors lessening in size, and as a necessary consequence, that of the poor increasing. The burdens imposed by government are constantly increasing, while her merchants find, where they once enjoyed a monopoly of trade, a rival in every market in the world, and competition brings down the price of merchandise to the lowest possible point.

Instead of monopoly, he has rivals who possess all the art once known to him only, and who are weighed down by none of the burdens which press so heavily upon him. The disadvantages under which the English manufacturer labors, have not, we are satisfied, been sufficiently taken into account in estimating our ability to compete with him. At present we may not be able to do this. Capital and labor are, and must, for a long time to come remain at a high rate in this new country. But every day they are becoming more abundant, and every day's experience enables us to manufacture cheaper than the preceding. We are steadily approaching the point where the Englishman now stands, while his case is constantly growing worse by the diminished price he is able to obtain for his goods, and the increasing weight of the load which he must bear. Time can be the only element wanting to give the American manufacturer the same monopoly in the markets of the world that the Englishman enjoyed. This time must come, and that shortly.

Will England make an effort to relieve herself of the debts and taxes without a repudiation?—Her only safety consists in taking measures for the extinction of her debt, not by payment, but by gradual repudiation. She has already set the example for this course in cutting down the rate of interest once paid on her debt. Let her enact, that after the lapse of a certain number of years but 3 per cent. shall be paid; at another period 2½, and so on, until by refusing to pay any interest the debt shall be repudiated. By placing these periods far enough ahead, no injustice or hardship would be caused, as those now holding the state securities would have died off before government should cease to pay the interest on them, and their children coming on the stage of life would be driven to seek an honest livelihood, and both this class and the government would be incalculably the gainers by such a course. Unless this policy is pursued, the national debt of Great Britain is to be the great disturbing force in the politics of Europe; and from its influence more is to be feared than from any other cause whatever.

Kentucky.

Lexington Railroad.—We are enabled now to announce that henceforward the cars will run regularly from the depot in this city to Lexington over the new grade. The T rail is laid along the whole route, with the exception, perhaps, of a mile—that has not been laid in consequence of some detention in the receipt of the iron. The new grade along the cliff, however, from the point of intersection with the old road to this city is completed.

We observed on yesterday, a new and very beautiful locomotive—a very large one—named "McKee," in honor to the late lessee of the road, the lamented Col. McKee. Now that the road is completed, we hope to see our fellow citizens of Lexington often. We shall not any longer have delays and vexations of "stages to the top of the hill."—*Frank. Com.*

A correspondent of the Columbus Journal gives a very interesting account of the first excursion made over the new railroad from that city to Xenia—54 miles—on the 22d of February. In his letter he pays a high compliment to Hon. Alfred Kelley, President of the Cleveland, Columbus and Cincinnati railroad, who has for a long time borne a distinguished part in promoting the public works of that State. In speaking of Mr. Kelley, the writer says:

"In 1823 his influence in the Legislature contributed mainly to the adoption of those measures which lead directly to the great system of *improvements*, which has placed Ohio in the position she occupies. * * These great works are accomplished, he is again called to the councils of the State, and in 1845 we find his leading mind contributing to such a system of currency as no other State in the Union can boast. And in the year following he crowns his public career by devising a a system of revenue which answers all the ends it contemplated, and grows in favor as its practical operation is developed. But there was in reserve for him other and still arduous duties; and the Cleveland, Columbus and Cincinnati railroad is a monument to his indomitable energy and perseverance, of which any man might well be proud.

"And yet, Mr. Kelley seems to possess all the mental and physical buoyancy which distinguishes his earlier efforts. Long may he live to reap the fruits of his public labors, and witness that public prosperity to which he has ever been so able and so faithful a contributor."

RAILROADS IN GEORGIA AND FLORIDA.

We learn that contracts have been closed for the construction of a railroad from Columbus, Ga., to connect with the Southwestern railroad, near Fort Valley, to be completed in 1851. The Georgia papers pay the highest compliment to Major Howard, of Columbus, president of the above road, for the zeal and energy displayed by him in the above work, and ascribe its success entirely to his efforts.

The Columbus Sentinel also states that the construction of a railroad from Girard opposite Columbus, to Mobile, has already been secured. Major Robert Hardaway, to whose especial supervision it has been committed, commenced a few days since a general survey of the country through which it was to pass, and was everywhere hailed with the proffered aid of the planters, by whom the road was to be run. The grading and superstructure of the road was voluntarily undertaken for stock, by every community on the line, and in this way he has received assurances that the work will be immediately commenced, and completed, on the whole line from Girard to Mobile Bay—a distance of 230 miles. Major Hardaway is now in New Orleans, endeavoring to make arrangements for the iron, and he writes that he anticipates no difficulty in effecting a satisfactory negotiation for that purpose. Thus the entire road from this place to the Mobile Bay, will, in a few days, be under contract, and it is not unreasonable to predict that in two years from this time, there will be a continuous steam connection between Savannah and Mobile.

BANK ROBBERY.

Geo. J. Bulloch, Cashier of the Georgia Central Railroad and Banking Company, has absconded, taking with him about $100,000 in the notes of the Bank. It is supposed that he has gone to England, and measures have been taken to have him arrested. However mortifying may be this affair, it is a satisfaction to know, that from the ample means and high standing of the company defrauded, it will suffer no inconvenience or discredit from the loss.

North Carolina.

North Carolina Central Railroad.—The Spirit of the Age announces that all the stock in the railroad was finally taken at the Hillsboro' Convention and that five per ct. was ordered to be paid by the 30th instant. The convention for organising the company is to be held in Salisbury in April next.

UTICA, March 11, 1850.

Editor Railroad Journal:

The result of my calculation is that "J. H. D." is wrong, and Mr. Johnson right, in relation to the momentum of the car wheel. (See Railroad Journal, Feb. 9, p. 88, and March 9, p. 151.) The figures CLGHKE and CBFDAE are not similar solids, as assumed by J. H. D., hence his conclusions based on that assumption are erroneous.

The error is one which the best mathematician might easily fall into. It seems proper, however, that it should be pointed out.

The figure CBFDAE, representing the momentum of a cylindrical car wheel, is equal to a wedge and a pyramid, both having a height equal to $\frac{CB}{2}$ = 5: the base of the wedge being 3·1416, and that of the pyramid, 3·1416 × (4 — 3·1416), and the solidity of this figure divided by the area of a circle whose diameter is 1, gives the length of the line KL, i.e.—

$$KL = \frac{3{\cdot}1416^2 \times 25 + 3{\cdot}1416 \times (4 - 3{\cdot}1416) \times 1^2}{7854}$$

3·714—as Mr. Johnson has given it.

S. WHIPPLE.

Beaver Dam, Va., March 9, 1850.

EDITORS RAILROAD JOURNAL:

Gentlemen—Several important changes in the condition of the road formerly known as the Louisa road have occurred which I presume it will be acceptible to the public to know.

At the present session of the General Assembly, an act was passed appropriating 3-5ths of $700,000 to extend the road from Staunton to Covington.—You are aware that the road is now in a course of construction from the Blue Ridge tunnel to Staunton.

Another guarantying $100,000 of its bonds to complete the independent road from Junction to Richmond, and changing its name to the Virginia Central railroad co.

Another authorising the people on the line of its extension to the Ohio, to tax themselves by counties for raising the 2-5ths of private subscription—

This new idea takes well. It has been carried out in Augusta county, and it is believed it will be in other wealthy counties.

It is proposed to carry the road to Gyandotte on the Ohio more than 250 miles below Wheeling.—Covington is about 25 miles from each of the White Sulphur and Hot Springs and about 200 from Richmond.

To Contractors.

THE Election of Directors of the Queenston Suspension Bridge Company having taken place, the Company are now prepared to receive Plans for the Bridge and Tenders for its erection. All communications to be directed, GILBERT McMICKEN,
1m11* Queenston.

To Miners and Mining Companies.

THE undersigned would respectfully call the attention of those persons engaged in mineral operations on Lake Superior to the following list of articles which will be sold on accommodating terms, viz:

600 bbls. Corn fed No. 1 Mess Pork.
500 " Stall fed Mess Beef.
25,000 lbs. "Sugar cured canvassed" Hams.
2,200 " Dried Beef.
60,000 " "Kiln dried" Corn Meal,
500 bush. White "Field" Beans.
300 " Canada" Peas.
500 " Dried Apples.
100 bbls. and half bbls. "cucumber" Pickles.
50 " Sour Krout.
30 bush. Onions.
1,000 Beefs' Tongues Smoked and in Pickle.
10,000 lbs. "Mould" Candles.
10,000 " "Hard" Soap.

Also, a full and large supply of all articles that may be required by Mining Companies and those connected with them. C. A. TROWBRIDGE,
127 Jefferson Avenue, Detroit, Michigan.

TO CONTRACTORS.

NOTICE is hereby given, that from 30 to 60 miles of the Orange and Alexandria Railroad will be ready for examination between 1st and 15th of April next. The road passes through a very healthy and fertile region, and embraces an amount of work every way worthy of the attention of able and experienced men.

The Company prefers to let the whole work of construction in contracts of not less than 30 miles, and for that purpose parties wishing further information are invited to call at the office in Alexandria.

The bids will be made on a basis of payments in cash to the amount of 85 per cent, and the remaining 15 per cent in the stock of the company. They must be sent to this office not later than the 16th day of April next, to be submitted to the meeting of the Board of Directors to be held on the 18th of the same. By order of the Board. T. C. ATKINSON,
Chief Engineer.

For the information of parties at a distance, it is well to state that the *Orange and Alexandria Railroad* is about 90 miles long, and extends from Alexandria through Fairfax, Prince William, Fauquier, Culpeper and Orange counties to Gordonsville, a point on the completed portion of the *Virginia Central Railroad*, formerly called the Louisa railroad.

An inspection of the map will show that its connections promise to make it as valuable a thoroughfare as any in the Union.

Railroad Iron.

OF ANY PATTERN AND WEIGHT,
Of a Favorite Brand,
And deliverable in Bond, or Duty paid, at any Port of the U. S., contracted for on favorable terms, by
CHARLES ILLIUS,
20 Beaver St., New York.

Pig and other Iron also contracted for. Sole Agent for "*Baxter's Machine and Burning Oil*"—particularly adapted for "*Railroads*" and other Machinery—Preferred to Sperm by the many now using it, and 25 *per cent. cheaper.*

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract to deliver Rails of superior quality, and of any size or pattern, to any ports of discharge in the United States.
COLLINS, VOSE & CO.,
158 South St.
New York, November 17, 1849.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplied by addressing J. W. FLACK,
March 6, 1850. Troy, N. Y.

FOWLER M. RAY'S Patent India-rubber Railroad CAR SPRING.

Troy, February 27, 1850.

We have been using your India-rubber Car Springs for nearly two years—and we take pleasure in saying that in our opinion the rubber has to a certain extent already, and may eventually entirely supersede all other Springs for Railroad Car purposes. We now use it entirely for Draw Springs and Bumpers, considering it better and lighter than steel.

During our two years' experience in the use of it, we have not known any to lose their elasticity, or fail in any way; and we cheerfully recommend the rubber for railroad car springs. Very respectfully,
EATON, GILBERT & CO.

—

Boston, March 5, 1850.

In answer to your enquiry about India-rubber Springs, I have to say that we have used them to a considerable extent on both freight and passenger cars, and also on several of our tenders; and I am very well satisfied that they answer all the purposes for which they are intended. I believe the India-rubber will soon supersede all other springs for cars and tenders. Yours truly, S. M. FELTON,
Supt. Fitchburg Railroad.

—

Office of the New Jersey Railroad Co.,
Jersey City, March 7, 1850.

This is to certify that we have had Mr. F. M. Ray's India-rubber Springs in constant use under our cars, and as Bumper Springs for upwards of two years, and they have in every way given perfect satisfaction.

The present form of spring we deem far superior to the form of Disk, having used both forms, although we have none of those made in Disks at present in use.

We take pleasure in recommending these springs to all railroad companies.
J. P. JACKSON, Vice Prest.
New Jersey Railroad and Trans. Co.

—

Roxbury, February 28, 1850.

In compliance with your request, I take great pleasure in stating the result of my experience in the use of "Ray's Patented Vulcanised India-rubber Car and Engine Springs." We have used them nearly two years, and never had one fail in any way. The *cold weather* does not affect *them*, as it has *other* rubber springs we have used.

With sixteen years' experience as superintendent of machinery on the Boston and Providence railroad, I take pleasure in saying that your springs are the best we ever used, or I ever saw used elsewhere. We have 20 cars rigged with them, of which I can say that the springs are as good now as when first applied. I put 24 lbs. of the rubber under the forward end of one of our heaviest engines, taking off 250 lbs. of steel springs—it has been in use 18 months, and is in as good condition now as when first put under the engine.
Very respectfully yours,
GEO. S. GRIGGS,
Supt. of Machinery, Boston and Prov. R.R.

—

Supt. Office N.Y. & H. R.R.,
New York, March 8, 1850.

This is to certify that we have used the Rubber Springs manufactured by Mr. F. M. Ray for the past twenty months, "both for Passenger and Freight Car Springs and Bumpers, and of different sizes," and have in every case given entire satisfaction, and I consider them the best spring now in use
M. SLOAT, Supt.

—

Jersey City, March 9, 1850.

This is to certify that the present form of Mr. F. M. Ray's India-rubber Car Spring I consider far superior to the form of Disk, having used both forms.

I take pleasure in recommending these springs to all railroad companies. DAVID H. BAKER,
Foreman of Car Shop of N.J. R.R. & Trans. Co.

—

Harlem R.R. Depot,
New York, March 7, 1850.

This is to certify that we have used Mr. F. M. Ray's India-rubber Springs for over eighteen months, and find them to be easy and durable, and recommend them to railroad companies as being superior to anything we have tried, J. M. SMART,
Foreman at 42d St. Depot.

—

February 25, 1850.

From practical observation of the use of the India-rubber Car Springs, manufactured and sold by your company, we are entirely satisfied in their application, and do not hesitate to recommend them as elastic, durable, requiring no repairs for years, and retaining their consistency during all extremes of weather. We have applied them for the past two years, and consider them superior for all railroad purposes.
Yours truly,
OSGOOD BRADLEY, Car Builder, Worcester.
J. H. WATSON, do. Springfield.
DEAN, PACKARD & MILLS, do. do.
DAVENPORT & BRIDGES, do. Cambridgeport.

—

Fall River, February 2, 1850.

In answer to yours of the 20th ult. I would say that this company has for some 10 or 12 months past been using "Ray's India-rubber Springs." We have applied them to both passenger and freight cars with uniform success. They have invariably preserved their elasticity and consistency through all the extremes of weather; and we are now applying them whenever the steel spring fails. I am well satisfied that they are particularly adapted for railroad purposes.
Very respectfully yours, GEO. HAVEN,
Supt. Fall River Railroad.

—

New York, March 11, 1850.

I have used the Patent India-rubber Spring purchased of Mr. Ray, upon the cars of the New York and New Haven Railroad, and have found them efficient and economical; and when applied to the axles and draw springs, believe them to be quite equal to any in use. I have found a combination of these springs with a steel spring under the transom beam a very satisfactory arrangement, and am now using this plan in all new cars. Yours respectfully,
ROBERT SCHUYLER.

—

Office of the Boston and Lowell Railroad,
Boston, March 8, 1850

EDWARD CRANE, Esq.,
Agent New England Car Co.

Dear Sir—In reply to your note, it gives me pleasure to state, that the results of using your India-rubber Springs on this road have been altogether favorable.

They retain, so far as has been observed on this road, their elasticity in any temperature; and are equally unaffected by the oil, with which they are necessarily brought into contact, and which I at first apprehended might have an injurious effect.

Though not in my opinion so easy as the "Air-spring" in its perfect state, they are much more easily kept in order, (indeed they require nothing in the way of repairs,) and they last much longer, so that I am now substituting them for "air-springs," wherever these have been used under our cars.
Respectfully yours,
WALDO HIGGINSON,
Agent Boston and Lowell Railroad.

—

Office New Jersey Railroad Co.,
Jersey City, March 8, 1850.

FOWLER M. RAY, Esq.,

Dear Sir: In answer to your enquiries respecting the operation of the Vulcanised Rubber Springs, purchased by our company from you some two years since, I reply that they are superior to any spring in use, (that I have either seen or heard of).

The improved form of your spring, consisting of a solid piece of vulcanised rubber with bands on the outside, is far superior to your first form, consisting of disks of rubber with metallic plates interposed.

The last named form was tried, if you recollect, at a much earlier period; and then was replaced by your last form.

I have no hesitation in saying that your springs have given entire satisfaction, and most cheerfully recommend them to railroad companies throughout the country for the following reasons:

1st. The cost is 30 per cent. less.

2d. Saving of weight on each car of 8 wheels from 700 to 800 lbs.

3d. Less care and attention is required, as they are not liable to get out of repair.

4th. A great saving is secured in the wear and tear of the cars and rails from their great elasticity.

5th. The freedom from noise.

6th. There is greater safety in case of accident, as they cannot be broken.

7th. The comfort of passengers is enhanced sufficiently to pay the expense, waiving all the other reasons that I have given.

Should this fail to satisfy any person enquiring, you are at liberty to refer to me, No. 150 Washington St., Jersey City. Yours respectfully,
T. L. SMITH, Supt.

Great American Engineering and Mechanical Work.

PUBLISHING MONTHLY BY SUBSCRIPTION

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☞ *Engineers in charge of Railroad Works, are respectfully requested to send Tracings of their Drawings of Bridges, &c., with the Specifications, Bills of Timber, Iron, &c., to GEORGE DUGGAN at his residence No. 179 Henry Street, New York, with a view to their insertion in this work.*

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The company declared a dividend of profits of fifty-two per cent. on all existing policies on the 31st of January, 1848.

All the Profits are Divided Among the Insured.

The premiums are payable in Cash annually, semi-annually, or quarterly, interest being added on the deferred payments.

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Persons may effect insurance on their own lives and the lives of others.

A married woman can insure the life of her husband, the benefits of which are secured by law for the exclusive use of herself or children.

Clergymen and all others dependent upon salaries or their daily earnings are specially invited to avail themselves of a resource whereby their surviving families may be secured from the evils of penury.

Pamphlets explanatory of the principles of Mutual Life Insurance, and illustrating its advantages, with forms of application, may be obtained at the office of the company, 35 Wall street, or of any of its agents.

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Stacy B. Collins,	Zebedee Cook,
John H. Swift,	Jona. Miller,
John Wadsworth,	David A. Comstock,
S. M. Cornell,	Robert Schuyler,
Gouv. M. Wilkins,	James Chambers,
John V. L. Pruyn,	Joseph Tuckerman,
Fred. Whittlesey,	Moses H. Grinnell,
Charles Ely,	Wm. J. Banker,
John C. Cruger,	Eugene Dutilh,
Walter Joy,	Francis S. Lathrop,
Alfred Pell,	John C. Thatcher.

JOSEPH. B. COLLINS, President.
ISAAC ABBATT, Secretary. 3m9

FARMERS! ATTENTION!!

John Mayher & Co's

NEW AGRICULTURAL WAREHOUSE AND SEED STORE,

197 WATER STREET, NEW YORK.

Where they have for Sale, the largest and most complete assortment of Farming Implements, ever offered for sale in this city—all of which they will sell 10 per cent. Cheaper than the same kind of Goods can be bought at any other house in the city. Our Goods are all Warranted to give satisfaction.

FARMERS wanting to purchase, will please call and examine our *Stock* before buying elsewhere.

Among our assortment may be found the Celebrated Highest Premium Eagle Ploughs! together with all the most approved Ploughs now in use.

Also,—Horse Powers, Threshing Machines, Fan Mills, Corn Shellers, Straw Cutters, Corn Mills, Seed Sowers, Churns, Ox Yokes, Ox Scrapers, Hay Rakes, Horse Rakes, Patent Chain Pump (that never freezes nor rusts), and other Pumps; in fact we have everything for Farming Purposes—together with Guano, Bone Dust and other Fertilizers.

JOHN MAYHER & CO.,
197 Water st., N. Y.

February 9, 1850.

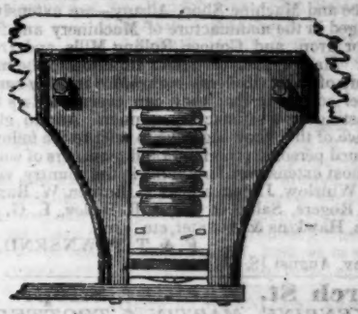
N.B.—J. M. & Co. also continue their Old Stand, at 195 Front street, near Fulton Market.

CAUTION.

RAILROAD COMPANIES and others are hereby cautioned against using or vending our improvement for easing the lateral motion as applied on Railroad Cars. Letters Patent having been granted to us in 1841, any party or parties so making or using said improvement without license from us will be proceeded against according to law.

DAVENPORT & BRIDGES.

FULLER'S PATENT INDIA RUBBER SPRING.



THESE SPRINGS ARE THE CHEAPEST, the lightest and most durable of any yet known. They are easily applied to new or old cars, and there is small possibility of any accident occurring to them.

Other parties through Mr. Ray set up claims to an India Rubber Spring which, though the same in principle, is very inferior in its working and durability.—Actions are in progress for an Infringement on Fuller's Patent against parties using that Spring.

The superiority of Fuller's Spring over that claimed by Mr. Ray is fully established and has frequently been testified to. The following are from gentlemen who have had much experience with both Springs.

"It will afford me pleasure to recommend your springs to the companies in this region, in preference to Ray's which I am confident are inferior in mechanical arrangement to yours." JOHN M'RAE,
Engineer S. Carolina R. R., Charleston.

—

"I do not hesitate to allow you to say that I concur in Mr. M'Rae's opinion that Ray's springs are inferior in mechanical arrangement to Fuller's. I repeatedly expressed that opinion long before Mr. M'Rae had seen your springs (as I believe) and entertain it still." WM. PARKER,
Gen'l Supt. of Baltimore and Ohio R. R.

—

Office of Sup't Norwich & Worcester R.R Co.,
December 26, 1849.

"I most fully concur in the opinion of Jno. McRae, Engineer of S. Carolina Railroad, that 'Rays Springs are inferior to Fuller's Springs;' and shall with pleasure recommend them to all Railroad Companies for adoption. I have used both springs on this road and have no hesitation in saying that I should in all cases prefer Fuller's Spring." SAM'L H. P. LEE, JR.,
Sup't and Engineer.

—

Office B. & P. R. R. Co.,
Boston, 20th December, 1849.

"This company have cars fitted up with both Ray's and Fuller's 'Metallic India Rubber Springs,' and I do not hesitate to say that Fuller's arrangement is *very much superior* to Ray's.
W. RAYMOND LEE, Supt.

—

The following result has been obtain t by experiment upon one railroad.

A set of Trucks fitted with Steel Springs cost	$190·77	and weigh	2355 lbs.
The same with Fuller's Springs, . . .	131·71	"	1911 lbs.
Difference, . .	$59·06	"	444 lbs.

Not only is there an advantage in the cost, but owing to the great reduction in weight, the car can be made lighter throughout, and so an enormous saving in weight may be effected in a Train.

G. M. KNEVITT, 38 Broadway, N. Y.,
General Agent for the U. S.

The Springs can also be had of
JAMES LEE & CO., 18 India Wharf, Boston, &
JAS. THORNLEY, 110 Chestnut St., Philad.
January 2, 1850.

WHISTLER MONUMENT Association.

MAJOR T. S. BROWN having, in leaving this country, resigned his office as Treasurer of this Association, the Committee oppointed for that purpose have selected as his successor GEO. M. DEXTER, Esq., of Boston.

Those desiring to subscribe will therefore please direct their communications to Geo. M. Dexter, Civil Engineer, etc., Boston, Mass.

A. W. CRAVEN, Secretary, etc.
New York, February 22, 1850.

To the Proprietors of Rolling Mills and Iron Works.

THE Undersigned—Proprietors of Townsend's Furnace and Machine Shop, Albany—are extensively engaged in the manufacture of Machinery and fixtures for Iron, and Copper Rolling Mills, and Iron Works. Having paid particular attention to the manufacture of *Rolls* (Rollers), both *chilled* and *dry-sand*, they feel confident that they can execute orders for such castings in a satisfactory manner. And to give assurance of this, they beg leave to refer to the following named persons, proprietors and managers of some of the most extensive rolling mills in the country, viz: Jno. F. Winslow, J. Tuckerman, H. Burden, W. Burtt, J. & J. Rogers, Saltus & Co., J. B. Bailey, L. G. B. Cannon, Hawkins & Atwater, etc., etc.

F. & T. TOWNSEND.

Albany, August 18, 1849.

Arch St. Machine Shop.

BIRKENBINE, MARTIN & TROTTER,
Makers of
STEAM ENGINES,
and
HYDRAULIC MACHINERY,
NO. 16 ARCH STREET,
PHILADELPHIA,

Will construct Steam Engines, Pumps, for Draining Mines and Land; supplying Water to Towns, Factories, Farms, etc;
Also, Street Stops, Fire Plugs, Water Tanks, and Hydraulic Rams, with
(BIRKINBINE'S PATENT VALVES.)
B., M. & T. contract for Warming and Ventilating Buildings by Steam or Warm Water.

THE NEWCASTLE MANUFACTURING Co. continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack Screws, Wrought Iron Work and Brass and Iron Castings, of all kinds connected with Steamboats. Railroads, etc.; Mill Gearing of every description; Cast Wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
President of the Newcastle Manuf. Co.

Brown's Old Established SCALE WARE HOUSE,

NO. 234 WATER ST., NEW YORK.

THE Subscriber, Practical Manufacturer of Scales of every description, respectfully asks the attention of Railroad Companies to his Improved Wrought Iron Railroad Track and Depot Scales which for strength, durability, accuracy, convenience in weighing, and beauty of workmanship, are not surpassed by any others in this country.

He is aware that this is rather a bold assertion for him to make, yet he can say with confidence that they have but to be tried to give them precedence over all others. J. L. BROWN.

☞ Bank Scales made to order, and all Scales of his make Warranted in every particular.

References given if required. 4tf

ENGINEERS.

Bancks, C. W.,
Civil Engineer, Vicksburg, Miss.

Berrien, John M.,
Michigan Central Railroad, Marshall, Mich.

Buckland, George,
Troy and Greenbush Railroad.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Cozzens, W. H.,
Engineer and Surveyor, St. Louis, Mo.

Davidson, M. O.,
Eckhart Mines, Alleghany Co., Maryland.

Fisk, Charles B.,
Cumberland and Ohio Canal, Washington, D. C.

Felton, S. M.,
Fitchburgh Railroad, Boston, Mass.

Floyd-Jones, Charles,
South Oyster Bay, L. I.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Gilbert, Wm. B.,
Rutland and Burlington Railroad, Rutland, Vt.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

Harry, P.,
Binghamton, New York.

Holcomb, F. P.
Southwestern Railroad, Macon, Ga.

Johnson, Edwin F.
New York and Boston Railroad, Middletown Ct.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Worcester and Nashua Railroad, Worcester, Mass.

Morris, Elwood,
Schuylkill Navigation, Schuylkill Haven, Pa.

Morton, A. C.,
Atlantic and St. Lawrence Railroad, Portland, Me.

McRae, John,
South Carolina Railroad, Charleston, S. C.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston,

Prichard, M. B.,
East Tennessee and Georgia R. R., Cleveland, Tenn.

Roebling, John A.,
Trenton, N. J.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Sanford, C. O.,
South Side Railroad, Virginia.

Schlatter, Charles L.,
Northern Railroad (Ogdensburg), Malone, N. Y.

Sours, Peter,
Rahway, New Jersey.

Stark, George.,
Bost., Con. and Mont. R. R., Meredith Bridge, N. H.

Steele, J. Dutton,
Pottstown, Pa.

Trimble, Isaac R.,
Philad., Wil. & Baltimore Railroad, Wilmington, Del.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Thomson, J. Edgar.,
Pennsylvania (Central) Railroad, Philadelphia.

Whipple, S.,
Civil Engineer and Bridge Builder, Utica, N. Y.

Williams, E. P.,
Auburn and Schenectady Railroad, Auburn, N. Y.

Williams, Charles H.,
Milwaukie, Wisconsin.

Wormeley, Preble,
Central Ohio Railroad, Zanesville, Ohio.

HOTELS.

JONES' HOTEL,
NO. 152 CHESTNUT STREET,
PHILADELPHIA.
BRIDGES & WEST, ... Proprietors.

DUNLAP'S HOTEL,
On the European Plan,
NO. 136 FULTON STREET,
Between Broadway and Nassau St.,
NEW YORK.

BUSINESS CARDS.

Nathan Caswell,
METAL BROKER, 69 WALL ST., N.Y.
For the Purchase and Sale of Railroad Iron (new and old,) Boiler Plates, Pig and Bar Iron, Lead, Tin, Copper, Spelter, etc. Refers to
Messrs. Boorman, Johnston, & Co., New York.
" Grinnell, Minturn & Co., "
" Barston, Pope & Co., "
" Earps & Brink, Philadelphia.
" E. Pratt & Brother, Baltimore.
John Barstow, Esq., Providence.
Lewis Bullard, Esq., Boston.
February 9, 1850. 6m*

VanRensselaer Stevens,
Sup't Transortation Providence and Worcester R.R., Providenc, R.I. Has had 13 years' experience in Operating Railroads. Will go South or West if applied to.

J. & Riley Carr,
Manufacturers of Cast, Shear, German and Blister
STEEL,
Of all Descriptions, Warranted Good.
BAILEY-LANE WORKS, SHEFFIELD.

R. S. DENTON, *Agent,*
NO. 20 CLIFF ST., NEW YORK.

STEEL AND FILES.
R. S. Denton,
20 CLIFF STREET, NEW YORK,
AGENT FOR
J. & Riley Carr's
BAILEY-LANE WORKS, SHEFFIELD,
Manufacturers of Cast, Shear, German and Blister
STEEL
Of all descriptions. *Warranted* Good
FILES.
Manufacturers of Machinists' Warranted Best Cast Steel *Files*, expressly for woring upon Iron and Steel, made very heavy for recutting.
☞ A full Stock of *Steel* and *Files* at all times on hand. 6m4

Cumberland, (Md.,) Coals for Steaming, etc.
ORDERS RECEIVED FOR AND FILLED by J. COWLES, 37 Wall St., N. Y.

George O. Robertson,
BROKER IN SCOTCH AND AMERICAN PIG IRON;
Bar Iron, Lead, Spelter, Tin, Copper, etc.,
No. 4 Liberty Place, MAIDEN LANE,
(Near Broadway,)
NEW YORK

Manufacture of Patent Wire ROPE AND CABLES,
For Inclined Planes, Suspension Bridges, Standing Rigging, Mines, Cranes, Derrick, Tillers, &c., by
JOHN A. ROEBLING, Civil Engineer,
TRENTON, N. J.

Samuel D. Willmott,
MERCHANT, AND MANUFACTURER OF
CAST STEEL WARRANTED SAWS,
IMPORTER OF THE
GENUINE WICKESRLY GRINDSTONES
NO. 8 LIBERTY STREET,
NEW YORK.

Doremus & Harris,
ANALYTICAL & CONSULTING CHEMISTS,
179 BROADWAY, NEW YORK.
☞SCHOOL OF CHEMISTRY.☜

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

Manning & Lee,
GENERAL COMMISSION MERCHANTS,
NO. 51 EXCHANGE PLACE,
BALTIMORE.
Agents for Avalon Railroad Iron and Nail Works. Maryland Mining Company's Cumberland Coal 'CED —'Potomac' and other good brands of Pig Iron.

Railroad Car Manufacturer's Furnishing Store.

F. S. & S. A. MARTINE,

IMPORTERS AND MANUFACTURERS OF

RAIL ROAD CAR & CARRIAGE LININGS,

PLUSHES, CURTAIN MATERIALS, ETC.,
112 WILLIAM ST., NEAR JOHN.

3-4 and 6-4 Damasks, Union and Worsted; Moreens, Rattinetts, Cloths, Silk and Cotton Velvets, English Buntings

S. W. Hill,

Mining Engineer and Surveyor, Eagle River, Lake Superior.

Alfred W. Craven,

Chief Engineer Croton Aqueduct, New York.

Starks & Pruyn,

MANUFACTURERS OF ALL KINDS OF

STEAM BOILERS,

52 and 54 Liberty, corner of Pruyn street

Nathan Starks, Wm. F. Pruyn, ALBANY. Special Partner R. H. Pruyn.

Iron Railing, Bank and Vault Doors, Iron Shutters Bridge and Roof Bolts, Heavy Jobbing and Forging of all kinds.

☞ For particularss ee Adv. in another column.

To Engineers and Surveyors.

E. BROWN AND SON Mathematical inst. makers No. 27 Fulton Slip, New York, make and keep for sale, Theodolites, Levelling inst., Levelling rods, Surveyors Compasses, and Chains, Cases of Mathematical drawing insts. various qualities, together with a general assortment of Ivory Scales and small insts. generally used by Engineers.

Samuel Kimber & Co.,

COMMISSION MERCHANTS

WILLOW ST. WHARVES, PHILADELPHIA.

AGENTS for the sale of Charcoal and Anthracite Pig Iron, Hammered Railroad Car and Locomotive Axles, Force Pumps of the most approved construction for Railroad Water Stations and Hydraulic Rams, etc., etc.

July, 27, 1849.

James Herron, *Civil Engineer*,

OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,

PATENTEE OF THE

HERRON RAILWAY TRACK.

Models of this Track, on the most improved plans, may be seen at the Engineer's office of the New York and Erie Railroad.

To Railroad Companies.

—WROUGHT IRON WHEELS—
SAFETY AND ECONOMY.

NORRIS' LOCOMOTIVE WORKS,
SCHENECTADY, NEW YORK,

Are Manufacturing Wrought Iron Driving, Truck, Tender, and Car Wheels—made from the best American Iron. Address E. S. NORRIS.

May 16, 1849.

Machinery Warehouse.

S. C. HILLS, No. 43 Fulton street, New York, has constantly for sale Steam Engines, Boilers, Lathes, Chucks, Drills, Planers, Force and Suction Pumps; Tenoning, Morticing and Boring Machines, Shingle Machines, Bolt and Nut Machines, Belting, Oil, Iron and Lead Pipe; Rubber, Percha and Leather Hose, &c., &c.

S. C. H.'s arrangements with several machine shops are such that he can supply, at very short notice, large quantities of machinery.

November 23, 1849.

Cruse & Burke,

Civil Engineers, Architects and Surveyors,
Office, New York State Institution of Civil Engineers,
STATE HALL, ALBANY., N. Y.

Drawings, specifications and surveys accurately executed. Pupils instructed theoretically and practically at a moderate premium.

May 26, 1849.

Eaton, Gilbert & Co.,

Railroad Car, Coach and Omnibus Builders,
TROY, N. Y.

Hudson River Foundry,

THOMAS & COLLINS,
130 Quay Street, Albany.

To Railroad & Navigation Cos.

MR. M. BUTT HEWSON, *Civil Engineer*, offers his services to Companies about to carry out the surveys or works of a line of Navigation or Railroad. He can give satisfactory references in New York City as to his professional qualifications; and will therefore merely refer here to the fact of his having been engaged for upwards of two years conducting important Public Works for the British Government.

Communications will find Mr. Hewson at the office of the Railroad Journal, 54 Wall Street, New York.

Walter R. Johnson,

CIVIL AND MINING ENGINEER AND Attorney for Patents. Office and Laboratory, F St., opposite the Patent office, Washington, D. C.

Cop Waste.

CLEAN COP WASTE, suitable for cleaning Railroad, Steamboat and Stationary Engines, constantly an hand and for sale by

KENNEDY & GELSTON,
5½ Pine St., New York.

October 27, 1849, 3m

Ranstead, Dearborn & Co.,

MANUFACTURERS OF
LOCOMOTIVE CRANKS AND CAR AXLES,
ALSO
WROUGHT IRON SHAFTING,
And All Kinds of Hammered Shapes.

Forge at Commercial Point, Dorchester,
Office 25 Foster's Wharf, opposite No. 211 Broad St.
BOSTON.

IRON.

Iron.

Pig Iron, Anthracite and Charcoal; Boiler and Flue Iron, Spring and Blistered Steel, Nail Rods, Best Refined Bar Iron, Railroad Iron, Car Axles, Nails, Stove Castings, Cast Iron Pipes of all sizes, Railway Chairs of approved patterns' for sale by

COLEMAN, KELTON & CAMBELL,
109 N. Water St., Philadelphia.

IRONDALE PIG METAL, MANUFACTURED and for sale by the Bloomsburg Railroad Iron Co.

DUDLEY FISHER, Treasurer.
75 N. Water St., Philadelphia.

Railroad Iron.

500 Tons, afloat, weighing 57 pounds per lineal yard, for sale by

COLLINS, VOSE & CO.,
158 South St.

New York, November 17, 1849. 1m46

Railroad Iron.

1675 Tons, weighing about 61 lbs. per yard, 90 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53½ lbs. per yard, of the latest and most approved patterns of T rail, for sale by

BOORMAN, JOHNSTON & CO.,
119 Greenwich street.

New York, Feb. 25, 1850.

N.B.—B., J. & Co are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the Unitad States.

Railroad Iron.

THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.

They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.

They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require iron of the *very best* quality for special purposes, is respectfully invited.

COOPER & HEWITT,
17 Burling Slip, New York.

February 15, 1850.

Glendon Refined Iron.

Round Iron, Band Iron, Hoop Iron,
Square " Flat " Scroll "
Axles, Locomotive Tyres,

Manufactured at the Glendon Mills, East Boston, for sale by

GEORGE GARDNER & CO.,
5 Liberty Square, Boston, Mass.

Sept. 15, 1849. 3m37

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES.—The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for rail roads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.

JOHN F. WINSLOW, *Agent*.
Albany Iron and Nail Works, Troy, N. Y.

The above Spikes may be had at factory prices, of Erastus Corning & Co Albany; Merritt & Co., New York; E. Pratt & Brother, Baltimore Md

LAP—WELDED

WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM 1 1-2 TO 8 INCHES DIAMETER.

These are the ONLY Tubes of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers

THOMAS PROSSER,
Patentee.
28 Platt street, New York.

Railroad Iron.

THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron. THOMAS B. SANDS & CO.,
22 South William street,

February 3, 1849. New York.

Iron Store.

THE Subscribers, having the selling agency of the following named Rolling Mills, viz: Norristown, Rough and Ready, Kensington, Triadelphia, Pottsgrove and Thorndale, can supply Railroad Companies, Merchants and others, at the wholesale mill prices for bars of all sizes, sheets cut to order as large as 58 in. diameter; Railroad Iron, domestic and foreign; Locomotive tire welded to given size; Chairs and Spikes; Iron for shafting, locomotive and general machinery purposes; Cast, Shear, Blister and Spring Steel; Boiler rivets; Copper; Pig iron, etc., etc.

MORRIS, JONES & CO.,
Iron Merchants,
Schuylkill 7th and Market Sts., Philadelphia.

August 16, 1849. 1y33

Railroad Iron.

THE MOUNT SAVAGE IRON WORKS, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention. J. F. WINSLOW, *President*
Troy, N.Y.
ERASTUS CORNING, Albany
WARREN DELANO, Jr., N.Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.

November 6, 1848.

Railroad Iron.

THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phœnix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehannah river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.

Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.

REEVES, BUCK & CO.,
45 North Water St., Philadelphia.

March 15, 1849.

Monument Foundry.

A. & W. DENMEAD & SON,
Corner of North and Monument Sts.,—Baltimore,
HAVING THEIR
IRON FOUNDRY AND MACHINE SHOP
In complete operation, are prepared to execute faithfully and promptly, orders for
Locomotive or Stationary Steam Engines,
Woolen, Cotton, Flour, Rice, Sugar Grist, or Saw Mills,
Slide, Hand or Chuck Lathes,
Machinery for cutting all kinds of Gearing.
Hydraulic, Tobacco and other Presses,
Car and Locomotive patent Ring Wheels, warranted,
Bridge and Mill Castings of every description,
Gas and Water Pipes of all sizes, warranted,
Railroad Wheels with best faggotted axle, furnished and fitted up for use, complete

☞Being provided with Heavy Lathes for Boring and Turning Screws, Cylinders, etc., we can furnish them of any pitch, length or pattern.

☞ Old Machinery Renewed or Repaired—and Estimates for Work in any part of the United States furnished at short notice.

June 8, 1849.

Iron Wire.

REFINED IRON WIRE OF ALL KINDS, Card, Reed, Cotton-flyer, Annealed, Broom, Buckle, and Spring Wire. Also all kinds of Round, Flat or Oval Wire, best adapted to various machine purposes, annealed and tempered, straightened and cut any length, manufactured and sold by

ICHABOD WASHBURN.

Worcester, Mass., May 25, 1849.

American and Foreign Iron.

FOR SALE,

300	Tons	A 1, Iron Dale Foundry Iron.
100	"	1, " " "
100	"	2, " " "
100	"	" Forge "
400	"	Wilkesbarre " "
100	"	"Roaring Run" Foundry Iron.
300	"	Fort " "
50	"	Catoctin " "
250	"	Chikiswalungo " "
50	"	"Columbia" "chilling" iron, a very superior article for car wheels.
75	"	"Columbia" refined boiler blooms.
30	"	1 x ¼ Slit iron.
50	"	Best Penna. boiler iron.
50	"	"Puddled" "
250	"	Bagnall & Sons refined bar iron.
50	"	Common bar iron.

Locomotive and other boiler iron furnished to order.

GOODHUE & CO.,
New York. 64 South street

American Pig, Bloom and Boiler Iron.

HENRY THOMPSON & SON,
No 57 South Gay St., Baltimore, Md.,

Offer for sale *Hot Blast* Charcoal *Pig Iron* made at the *Catoctin* (Maryland), and *Taylor* (Virginia), *Furnaces; Cold Blas.* Charcoal Pig Iron from the *Cloverdale* and *Catawba*, Va., Furnaces, suitable for *Wheels* or *Machinery* requiring *extra* strength; also *Boiler* and *Flue Iron* from the mills of Edge & Hilles in Delaware, and *best quality Boiler Blooms* made from *Cold Blast Pig Iron* at the *Shenandoah Works*, Va. The productions of the above establishments can always be had at the lowest market prices for approved paper.

American Pig Iron of other brands, and *Rolled* and *Hammered Bar Iron* furnished at lowest prices. Agents for *Watson's Perth Amboy Fire Bricks*, and Rich & Cos. New York Salamander Iron Chests.

Baltimore, June 14, 1849. 6 mos

Wheel, Forge and Foundry Iron.

LOCUST GROVE Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,
6m9 62 Buchanan's Wharf, Baltimore.

Iron.

THE SUBSCRIBERS having resumed the agency of the New-Jersey Iron Company, are prepared to execute orders for the different kinds and sizes of Iron usually made at the works of the company, and offer for sale on advantageous terms.—

150	tons	No. 1 Boonton Foundry Pig Iron.	
100	"	No. 2 do.	do.
300	"	Nos. 2 & 3 Forge do.	do.
100	"	No. 2 Glendon do.	do.
140	"	Nos. 2 & 3 Lehigh Crane do	do.
100	"	No. 1 Pompton Charcoal do.	
100	"	New-Jersey Blooms	
50	"	New-Jersey Faggoting Iron, for shafts	

Best Bars, ¼ to 4 inch by ¼ to 1 inch thick.
Do do Rounds and Squares, ½ to 3 inch.
Rounds and Squares, 3-16 to 1 inch.
Half Rounds, ¼ to 1 in. Ovals & Half Ovals ½ to 1½ in.
Bands, 1¼ to 4 inch. Hoops, ½ to 2 inch.
Trunk Hoops, ½ to 1½ in. Horse Shoe & Nut Iron,
Nail Plates. Railroad Spikes.

DUDLEY B. FULLER & Co., 139 Greenwich-st. and 85 Broad-st.

WILLIAM JESSOP & SONS' CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving from their manufactory,
PARK WORKS, SHEFFIELD,
Double Refined Cast Steel—square, flat and octagon.
Best warranted Cast Steel—square, flat and octagon.
Best double and single Shear Steel—warranted.
Machinery Steel—round.
Best and 2d gy. Sheet Steel—for saws and other purposes.
German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms by WM. JESSOP & SONS,
91 John street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce street, Philadelphia.
Alex'r Fullerton & Co., 119 Milk street, Boston.
Stickney & Beatty, South Charles street, Baltimore.
May 6, 1848.

Ogden & Martin's ROSENDALE CEMENT.

WE are prepared to enter into arrangements for supplying our Cement for public works or other purposes. We warrant the cement equal in every respect to any manufactured in this country. It attains a great degree of hardness, setts immediately under water, and is a superior article for masonry coming in contact with water, or requiring great strength.

For sale in tight barrels, well papered, at their office by OGDEN & MARTIN, 104 Wall st.
February 16, 1850. 1y*

The above cement is used in most of the fortifications building by government.

JOHNSON, CAMMELL & Co's Celebrated Cast Steel,

AND
ENGINEERING AND MACHINE FILES,

which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,
100 William St., New York.
November 23 1849.

Railroad Iron.

1,500	Tons	weighing 58 lbs.	per	lineal	yard.
500	"	" 57	"	"	
500	"	" 56	"	"	
500	"	" 60 & 61 lbs.	"		

Also 2½x½ flat rails. All the above being of approved patterns. For sale by

DAVIS, BROOKS, & CO.,
68 Broad street.

N.B.—Rails imported on commission, or at a fixed price.

CUT NAILS OF BEST QUALITY, BAR IRON (including Flat Rails) manufactured and for sale by FISHER, MORGAN & CO.,
75 N. Water St., Philadelphia.

American Cast Steel.

THE ADIRONDAC STEEL MANUFACTURING CO. is now producing, from American iron, at their works at Jersey City, N.J., Cast Steel of extraordinary quality, and is prepared to supply orders for the same at prices below that of the imported article of like quality. Consumers will find it to their interest to give this a trial. Orders for all sizes of hammered cast steel, directed as above, will meet with prompt attention.

May 28, 1849.

To Steam Engine Builders.

THE Undersigned offer for sale, *at less than half its cost*, the following *new machinery*, calculated for an engine of 62 inches cylinder and 10 feet stroke, viz.

2 Wrought Iron Cranks, 60 inches from centre to centre.
1 Do. do. Connecting Rod Strap.
2 Do. do. Crank Pins.
1 Eccentric Strap.
1 Diagonal Link with Brasses.
1 Cast Iron Lever Beam (forked).

The above machinery was made at the West Point Foundry for the U. S. Steamer Missouri, without regard to expense, is all finished complete for putting together, and has never been used. Drawings of the cranks can be seen on application to

HENRY THOMPSON & SON,
No. 57 South Gay St., Baltimore, Md.
Sept. 12, 1849.

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES, and Levels, with Fraunhoffers Munich Glasses, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by

E. & G. W. BLUNT,
No. 179 Water St., cor. Burling Slip.
New York, May 19, 1849.

Ballard's Improved JACK-SCREW.

PATENTED.

THE ADVANTAGES OF THIS Screw for Stone Quarries, Railroads, Steam Boiler Builders, and for other purposes are superior to any other similar machine.

The improvement consists in being able to use either end of the screw, as occasion requires.

It is capable of raising the heaviest Locomotive with ease, being portable, strong and powerful, and not likely to get out of order.

Many Railroad Companies and Boiler Makers have them in use—by whom they are highly recommended.

JACK SCREWS,
of various sizes, power and price, constantly on hand at the manufactory.

No. 7 Eldridge Street,
near Division Street.
New York, Jan. 19, 1850.

To Railroad Companies and Contractors.

FOR SALE.—Two Locomotive Engines and Tenders, at present in use on the Beaver Meadow Railroad, being too light for their coal trains, but well calculated for either gravel or light passenger trains.

They weigh, in running order, about 8 tons each—having one pair of driving wheels 4 feet diameter, 4 truck wheels 30 inches diameter, with cylinders 10 in. diameter, and 18 inches stroke of piston. Tenders on 4 wheels. Address JAMES ROWLAND,
Prest. Beaver Meadow Railroad & Coal Co.,
Philadelphia.
or, L. CHAMBERLAIN, Sec'y,
at Beaver Meadow, Pa.
May 19, 1849. 20tf

SPRING STEEL FOR LOCOMOTIVES, TENDERS AND CARS.—The subscriber is engaged in manufacturing spring steel from 1¼ to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address J. F. WINSLOW, *Agent*,
Albany Iron and Nail Works.

To Railroad Companies.

FOR SALE—A Second-hand Locomotive Engine and Tender, of about 10 tons weight, in good order, and *warranted to perform well.* Any company wanting a cheap engine for a passenger or light burden train, will rarely meet with an opportunity so favorable as the present. The engine and tender are in perfect running order, and will be tested to the satisfaction of any one wishing to purchase. Price $1,500.

Address J. B. MOORHEAD,
Frazer P.O., Chester county, Pa.

P.S.—The Engine can be seen by calling on H. Osmond & Co., Car-builders, Broad st., Philadelphia.
September 6, 1849.

India-rubber for Railroad Cos.

RUBBER SPRINGS—*Bearing and Buffer—Fuller's Patent—Hose* from 1 to 12 inches diameter. Suction Hose. *Steam Packing*—from 1-16 to 2 in. thick. *Rubber and Gutta Percha Bands.* These articles are all warranted to give satisfaction, made under Tyer & Helm's patent, issued January, 1849.—No lead used in the composition. Will stand much higher heat than that called "Goodyear's," and is in all respects better than any in use. Proprietors of railroads do not be overcharged by pretenders.

HORACE H. DAY,
Warehouse 23 Courtlandt street.
New York, May 21, 1849.

Fire Brick.

THE Subscribers have constantly on hand Rafford's Stourbridge, Oak Farms Stourbridge, Lister, Wortley, Red and White Welsh Fire Bricks, common and fancy shapes. Also,

ROOFING SLATES,

from the best Welch quarries, and of all sizes. Also,

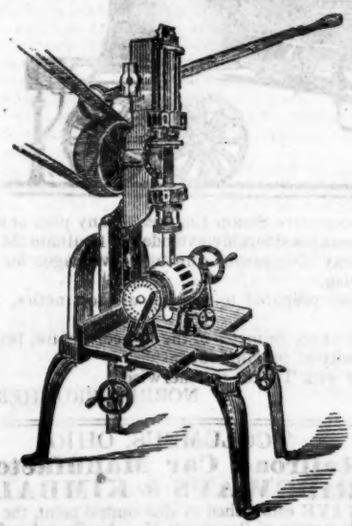
COAL,

of all kinds—Liverpool Orrell and Cannel, Scotch, New Castle, Pictou, Sidney, Cumberland, Virginia, and all kinds of Anthracite coals. Also,

Pig Iron, Salt, etc., etc., for sale at the lowest market price. Apply to

SAMUEL THOMPSON & NEPHEW,
275 Pearl and 43 Gold Sts., New York.
November, 23, 1849.

Capt. Alfred Swingle's PATENT BORING & MORTISING MACHINE.

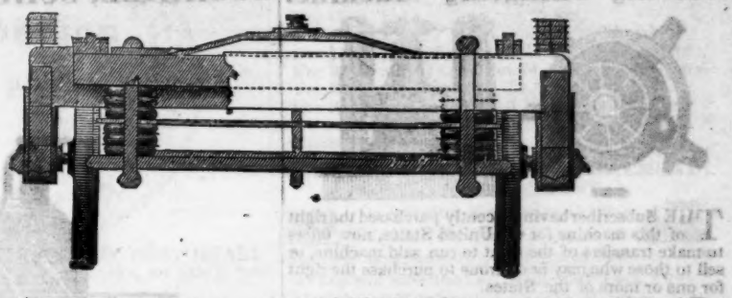


The above Machine was invented by A. SWINGLE, of Texas, in 1846, and Letters Patent were taken out in July, 1848. As a labor saving Machine it stands unrivalled even in these days of improvements. Its uses are innumerable; it may be successfully applied to Doors, Sashes, Carriages, Wheel-Hubs, and in fact to all kinds of work where the Auger and Chisel can be brought to bear.

The only limit to the speed of the working of this machine is the heating of the tools used. It will perform at least the labor of twelve men, and in vastly better manner, and can be worked equally well by steam power or by hand. It has been used and has given universal satisfaction.

For further information apply to H. B. TEBBETTS, 40 Wall St., New York, to whom all orders are to be addressed.
New York, December 15, 1849.

FULLER'S PATENT INDIA RUBBER CAR SPRINGS.



RAILROAD COMPANIES are cautioned, before purchasing Springs, to examine the actual patents and judge for themselves.

Persons, under the Title of the New England Car Company, seeking fraudulently to invade Fuller's rights have put forth so many statements for the purpose of misleading the public, that an enumeration of some facts is absolutely necessary, for the purpose of putting persons interested upon their guard.

Fuller's patent is for the application of Discs of India-rubber with Metal Plates, for forming Springs for Railway Cars and Carriages—either one disc and two plates, or ten discs and plates, or any other number, are equally covered by the patent. Fuller is not bound to the use of short discs—he may use long discs and plates.

Ray's patent is simply and wholly the forming of air tight rubber cylinders, with hoops or bands round the outside, and the combination of elasticity of India rubber, with the elasticity of atmospheric air confined in the cylinder, and in no part of his patent is he authorised to use the form of spring which he is now fraudulently supplying to Railroad Companies. Such springs are direct and positive infringements of the very letter of Fuller's patent.

Fuller's patent is dated October, 1845, Ray's patent, August, 1848.

The spring patented by Ray never has been put in operation, and never can be made useful for Railroad cars.

A mere experiment, even if made, it is well known does not prove an invention; and it is ridiculous for such parties to hope to mislead the Presidents and Superintendents of Railroad companies, by claiming the invention because Ray alledges he made an experiment—which Fuller had made before him—had actually brought into working order, and obtained a patent for—and this too before Mr. Ray states he made his experiment—and that experiment not claimed to have been applied to a car or carriage.

Besides, the invention could not have been developed until India rubber, properly Vulcanised, could be made of a sufficient thickness. In the United States the art of vulcanising rubber by steam heat, (by which means only can a body of rubber having any considerable thickness be vulcanised,) was not introduced until after the grant by the American government of the patent for springs to Fuller—whereas the process of vulcanising rubber by steam heat was invented in England about three years previously, and was used by Fuller there. This fact refutes entirely the claim of invention put forth by Mr. Ray, and proves the impossibility of his pretensions being true.

Fuller was the first and only inventor of the spring. A Mr. Dorr, whose connection with Mr. Goodyear is well known in this country, applied in England to Mr. Fuller, after he had published and patented his invention, and introduced another party for the purpose of obtaining the agency for the United States. They were furnished with a complete set of drawings and models, and with instructions to make arrangements for the supply of material of American manufacture—from that hour to the present not a single communication has been received from them. Some of these identical models have been traced into the hands of parties now seeking to invade Fuller's rights, and who have exhibited them as specimens of their own invention.

After this, the conveyance was made by Goodyear to certain parties here for the use for railroad springs of what he calls his Metallic rubber. Comment is unnecessary.

There are 5 or 6 different processes for the manufacture of vulcanised rubber, patented by as many different parties, some here, some in England, either of which would probably make good springs.

A large and powerful company has been organised under Fuller's patent, the particulars of which shall be given very shortly.

An action has been commenced against three railroad companies for infringement; and all other parties will assuredly be prosecuted if they continue farther to infringe upon Fuller's patent.

W. C. FULLER,

The only persons authorised to supply the Springs are G. M. KNEVITT, 38 Broadway, N. York, General Agent for the U. S.; and
JAS. LEE & Co., 18 India Wharf, Boston.
JOHN THORNLEY, Chestnut st., Philad.

FAIRBANKS' RAILROAD SCALES.—THE subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales;* of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accuracy of weight and dispatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon railroads, either in the United States or Great Britain;—and the managers refer with confidence to the following in the United States.

Eastern Railroad.	Boston & Maine Railroad.
Providence Railroad.	Providence and Wor. Road.
Western Railroad.	Concord Railroad.
Old Colony Railroad.	Fitchburg Railroad.
Schenectady Railroad.	Syracuse and Utica Road.
Balt. and Ohio Railroad.	Baltimore and Susq. Road.
Phila. & Reading Road.	Schuylkill Valley Road.
Central (Ga.) Railroad.	Macon and Western Road.

New York and Erie Railroad.

And other principal Railroads in the Western, Middle and Southern States.

E. & F. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents, { FAIRBANKS & Co., 81 Water-St., N. York. / A. B. NORRIS, 196 Market St. Philadelphia.
April 22, 1849. 1y*17

Patent India Rubber Steam Packing.

THIS article, made by the subscriber, who alone is authorised to make it, is warranted to stand as high a degree of heat *as any that has been or can be made by any person*—and is the article which has made the reputation of India Rubber Steam Packing and the demand therefor. A large assortment of all thicknesses requisite for any description of engines, steam pipes, valves, etc., constantly on hand and for sale by the manufacturer and patentee, who will give every information regarding its properties, mode of use, etc. at the warehouse. JOHN GREACHEN, JR.,
98 Broadway, opposite Trinity Church.
New York, October, 1849.

Ibbotson, Brothers & Co's CELEBRATED CAST STEEL AND

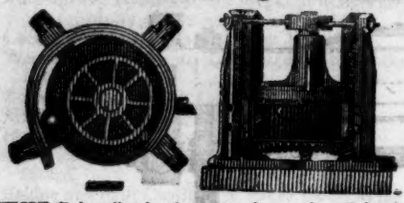
Best Cast Steel Royal Improved Files, well known as better adapted for Engineers' and Machinists' purposes than any now in use in the United States.

Every description of Square, Octagon, Flat and Round Cast Steel, Sheet, Shovel and Railway Spring Steel, etc., and Steel to order for any purposes—manufactured at their works in Sheffield—and universally known by the old stamp "Globe."

HENRY J. IBBOTSON, Agent.,
218 Pearl st., New York.
February 25, 1850.

MACHINERY.

Henry Burden's Patent Revolving Shingling Machine.



THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phœnixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has given universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammerman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y. P. A. BURDEN.

Railroad Spikes and Wrought Iron Fastenings.

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery *for making Spikes*, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

RAILROAD WHEELS.

CHILLED RAILROAD WHEELS.—THE UNdersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St., below 13th,
Philadelphia, Pa.

CHILLED RAILROAD WHEELS.—THE UNdersigned, the *Original Inventor* of the *Plate Wheel* with solid hub, is prepared to execute all orders for the same, promptly and faithfully, and solicits a share of the patronage for those kind of wheels which are now so much preferred, and which he originally produced after a large expenditure of time and money.

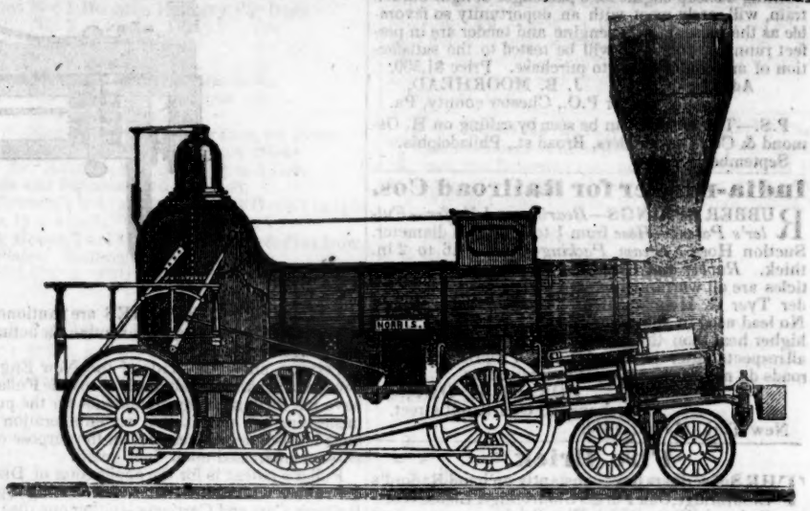
A. TIERS,
Point Pleasant Foundry.

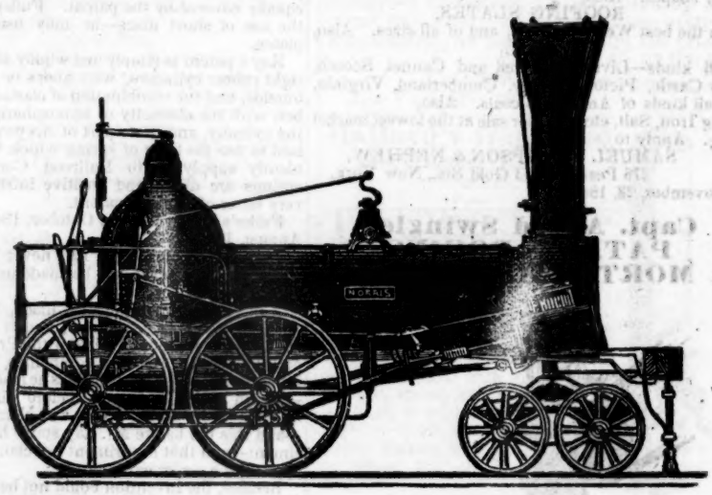
He also offers to furnish Rolling Mill Castings, and other Mill Gearing, with promptness, having, he believes, the largest stock of such patterns to be found in the country. A. T.

Kensington, Philadelphia Co.,
March 12, 1848.

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tires are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This Cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Flooms, and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

For sale in lots to suit purchasers, in tight papered barrels, by JOHN W. LAWRENCE,
142 Front-street, New York.

☞ Orders for the above will be received and promptly attended to at this office. 32 1y.

PATENT MACHINE MADE HORSE-SHOES.

The Troy Iron and Nail Factory have always on hand a general assortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

COLUMBUS, OHIO,

Railroad Car Manufactory.

RIDGWAYS & KIMBALL,

HAVE established at this central point, the manufacture of Passenger, Freight, Gravel and Hand Cars for Railroads, and assure all Western Railroad Companies that it will be their constant aim to procure the best materials and workmen, and to turn out the best kind of work at fair prices. Specimens may be seen on the Columbus and Xenia Railroad. The patronage of Railroad Companies is respectfully solicited. — 1y8

To Inventors and Patentees.

OWEN G WARREN, ARCHITECT, Has had many years' experience as Agent for obtaining Patents, both in this country and Europe, and will transact such business promptly and reasonably. Persons at a distance can have their business done by correspondence—without the necessity of visiting this city or Washington. Office No. 94 Merchants Exchange, Wall st., corner of Hanover st., up stairs. 1y3

MR. HALE:—"The New England Car Co., having been engaged for the last six months in introducing the Vulcanized India-rubber Car Spaings upon the different railroads in this and other states, and having in particular introduced it upon the Boston and Worcester railroad with perfect success, were much gratified to find, by your paper of this morning, that the article had given satisfaction to the president of that corporation, and the terms of just commendation in which you were pleased to speak of it. But their gratification was scarcely equalled by their surprise, when, or arriving at the close of your paragraph, they found the results of all their labors attributed to a foreign source, with which the New England Car Co. has no connection. The material used on the Boston and Worcester railroad, and all the other railroads in this country, where any preparation of India-rubber has been successfully applied, is entirely an American invention, patented in the year 1844 to Charles Goodyear, of New Haven, Conn., and the application of it to this purpose and the form in which it is applied are the invention of F. M. Ray of New York. The only material now in use, and so far as has yet appeared, the only preparation of India rubber capable of answering the purpose, has been furnished under these patents by the New England Car Company, manufactured under the immediate inspection of their own agent. If any other should be produced, the right to use it would depend upon the question of its interference with Mr. Goodyear's patent. The New England Car Company have their place of business in this city at No. 99 State street, and are prepared to answer all orders for the Vulcanised India rubber Car Springs, of the same quality and of the same manufacture as those which they have already placed on your road, and most fo the other roads terminating in this city."

And yet Mr. Knevitt is using these experiments made upon the Springs of the Car Company to induce the public to purchase his springs, and is attempting to impose upon them the belief that the springs used were furnished by him! We ask whether such a course is honorable, or entitles his statements to much consideration from the public.

The above Springs are for sale 98 Broadway, New York, and 99 State street, Boston.

EDWARD CRANE Agent, Boston.
F. M. RAY, Agent, New York.

Boston, May 8, 1849.

NICOLL'S PATENT SAFETY SWITCH FOR Railroad Turnouts. This invention for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design. It acts independently of the main track rails; being laid down or removed without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two castings and two rails; the latter, even if much worn or used, not objectionable.

Working models of the Safety Switch may be seen at Messrs. Davenport, Bridges & Kirk's Cambridge Port, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained, on application to the Subscriber, Inventor and Patentee.

G. A. NICOLLS,
Reading, Pa.

Railroad Lanterns.

COPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,
No. 24 Commercial St. Boston.

August, 16, 1849. 6m33

NORRIS' LOCOMOTIVE WORKS,
SCHENECTADY, N. Y.

THESE Works are in full operation in Manufacturing to order, Locomotive Steam Engines & Tenders, of the best principle and construction of material, using wrought iron heavy frames with pedestals welded thereto, and all parts of the engine made of the best wrought iron, except cylinders, pumps and boxes —obtaining greater durability, and carrying less weight over the road, than engines constructed of cast iron.

Wrought Iron Tires made any required size, and Tire Bars bent and welded with dispatch.

Chilled Wheels for Cars, Tucks and Tenders, made from the toughest iron.

Driving and Tender and Car Wheels fitted to Axles with Brass Boxes and Springs, and Railroad Machinery generally. Manufactured and for sale by

E. S. NORRIS.

April 11, 1849.

Hydraulic Cement.

KINGSTON LIME AND CEMENT CO.
OFFICE
271 PEARL-ST.
N. Y.

HYDRAULIC CEMENT, OF BEST QUALITY, manufactured at their works, for sale in lots to suit purchasers.

Also, Ground Lime, a superior article for Builders.

ISAAC FRYER, Sec'y.

January 19, 1850. 1y

Engine and Car Works,
PORTLAND, MAINE.

THE PORTLAND COMPANY, Incorporated August 8th, 1846, with a capital of $250,000, have erected their extensive Works upon the deep water of Portland Harbor, and receive and transport, to and from their works direct, to and from vessels of any class.

They now manufacture to order, and deliver upon the Railroads running in each direction from the city, or on shipboard as wanted, Locomotive, Stationary, or Steam Boat Engines; Passenger, Mail, Freight, Earth and Hand Cars; Railway Frogs, Switches, Chairs and Castings; and every other description of Machinery.

HORACE FELTON,
Superintendent.

JAMES C. CHURCHILL,
General Agent and Clerk.

RAILROADS.

EASTERN RAILROAD.

WINTER ARRANGEMENT.

On and after Monday, October 8, 1849, trains leave Boston daily (Sundays excepted);

For Lynn, 7, 8½, 10 a.m., 12½, 2½, 4, 4½, 6½, p.m.
Salem, 7, 8½ 10, a.m., 12½, 2½, 4, 4½, 6½, p.m.
Manchester and Gloucester, 10 a.m., 4 p.m.
Newburyport, 7, a.m., 12½, 2½ 4½, p.m.
Portsmouth, 7, am., 2½, 4½, pm.
Portland, Me., 7, am., 2½, pm.

And for Boston,

From Portland, 8½ am., 4 pm.
Portsmouth, 7, 10½*, am., 6½*, pm.
Newburyport, 7½, 11½*, am., 3½ 7*, pm.
Gloucester, 7½, am., 1½pm.
Manchester, 8 am., 2 pm.,
Lynn, 7½, 8½*, 9½*, 10½ am., 12 55*, 2½* 4½* 8½* pm.
Salem, 7½, 8½*, 9*, 10½ am., 12 40*, 2½* 4½,* 8*, pm.

** Or on their arrival from the East.*

Freight trains each way daily. Office 17 Merchants' Row, Boston.

Feb. 3. JOHN KINSMAN, Superintendent.

ALBANY AND BUFFALO RAILROADS.—Four Trains daily, Sundays excepted; viz: Leave Albany, 6 a.m., 9 a.m., 2 p.m., 7 p.m. Reach Buffalo, 15 hours, 18 hours, 23 hours, 18 hours. Arrive from Buffalo, 7 p.m., 2½ a.m., 12½ m., 3½ p.m.

Passengers by the *Express Train* reach Buffalo from New York, and New York from Buffalo, in 24 hours. The Isaac Newton and Oregon connect at Albany with this Train. Baggage cars, with careful baggage masters, run through with all the trains.

For Schenectady, Saratoga Springs & Whitehall, Leave Albany at 7 a.m. and 2 p.m. For Schenectady only at 6, 7 and 9 a.m. and 12½, 2 and 7 p.m. For Erie Canal packets at 7 a.m. and 7 p.m. By Plank Road from Schenectady to Saratoga at all hours by stages, etc.

The *Eastern Trains* leave Albany at 7 a.m. and 3 p.m. The wagons of the company take baggage *free* between railroads and steamboats at Albany.

E. FOSTER, Jr., Sec'y
Albany and Schenectady Railroad Co.

Albany, August, 1849.

BOSTON AND MAINE RAILROAD.

Winter Arrangement, 1850.

Outward Trains from Boston

For Portland at 7 am. and 2½ pm.
For Rochester at 7 am., 2½ pm.
For Great Falls at 7 am., 2½, 3½ pm.
For Haverhill at 7 and 9½ am., 2½, 3½, 5½, pm.
For Lawrence 7, 7½, 9½ am., 12m. 2½, 3½, 4½ 5½, pm.
For Reading 7, 9½ am., 12m. 2½, 3½, 4½, 5½, 7½, 9½ pm.
For Medford 7½, 9½ a.m., 12½, 2½, 5, 6½, 9½ p.m.
The Station in Boston is on Haymarket Square.

CHAS. MINOT, Super't.

January 10, 1850.

NEW YORK AND HARLEM RAILROAD.
NEW ARRANGEMENT.

On and after Wednesday, October 17th, 1849, the Cars will run as follows, (Sundays excepted) until further notice:

Trains will leave the City Hall, New York, for—
Harlem and Morrisania at 6½, 8, 10, 11, 12 am., 2, 3½, 4, 5, 6½ pm.
New Village, at 8½, 10, 12 am., 3½, 5, 6½ pm.
Fordham and Williams' Bridge, at 8½, 10, 12 am., 2½ 3½, 5, 6½ pm.
Hunt's Bridge, Underhill's and Hart's Corners, at 8½, 10 am., 3½, 5 pm.
Tuckahoe and White Plains, at 8½, 10 am., 2½, 3½, 5 pm.
Pleasantville, New Castle, Bedford, Mechanicsville, Purdy's, Croton Falls, and intermediate stations, on signal, 8½ am., 2½, 3½ pm.
Brewster's, Towner's, Patterson, Paulding's, South Dover, Dover Furnace, and Dover Plains, 8½ am., 2½ pm.

NOTICE—Passengers are reminded of the great danger of standing upon the platform of the cars, and hereby notified that the practice is contrary to the rules of the Company, and that they do not admit any responsibility for injury sustained by any passenger upon the platforms, in case of accident.

Returning to New York will leave
Harlem and Morrisiana at 6 08, 7½, 8 37, 9, 10 6, 12 am., 1 43, 3 07, 3½, 5, 5 47 pm.
New Village, at 5 58, 8 27, 9 56 am., 1 33, 2 57, 5 36 pm.
Fordham and William's Bridge at 5½, 8 14, 9 43, 10 57 am., 1 20, 2 44, 5 24 pm.
Hunt's Bridge at 8 04, 9 33 am., 2 34, 5 16 pm. On signal.
Underhill's, at 7 56, 9 23 a.m., 2 26, 5 10 p.m. On signal.
Tuckahoe at 7 53, 9 18, 10 40 am., 2 23, 5 08 pm.
Hart's Corners at 7 38, 9 03 am., 2 08, 4 54 pm.—On signal.
White Plains at 7½, 8 55, 10 20 am., 2, 4 47 pm.
Davis' Brook at 8 40, 10 11 am., On signal. 4 39 pm. On signal.
Unionville, 8 27, 10 11 am. On signal. 4 29 pm.—On signal.
Pleasantville at 8 20, 9 56 am., 4 24 pm.
Champaqua, at 8 10, 9 50 am. On signal. 4 18 pm. On signal,
New Castle, at 7 56, 9 38 am.. 4 07 pm.
Bedford at 7 46, 9 32 am., 4 02 pm.
Mechanicsville at 7 36, 9 22 am., 3 52 pm.
Golden's Bridge, 7 28, 9 17 am. On signal, 3 47 p m. On signal.
Purdy's at 7 20, 9 09 am., 3 39 pm.
Croton Falls, at 7½, 9 04 am.,3 34 pm.
Brewster's, at 8 50 am., 3 20 pm.
Towner's, at 8 35 am., 3 05 pm.
Paterson, at 8 27 am., 2 57 pm.
Paulding's, at 8 17 am., 2 47 pm.
South Dover, 8 02 am., 2 32 pm.
Dover Furnace, 7 55 am., 2 25 pm.
Dover Plains, at 7 45 am., 2 15 pm.

The trains for Harlem and Morrisiana leaving City Hall at 6½, 8, 10, 11, 12, 2, 4 and 6½, returning from Morrisiana and Harlem at 6 08, 7½, 9, 12, 1 43, 3 07, 3½ and 5 o'clock, will land and receive passengers at 27th 42d, 51st, 61st, 79th, 86th, 109th, 115th, 125th and 132d streets.

The Dover Plains train from New York at 2½ pm., returning leaving Dover Plains at 7½ am., will not stop between White Plains and New York, (except at Tuckahoe, Williams' Bridge and Fordham,) unless to leave passengers coming from above Croton Falls.

A car will precede each train ten minutes to take up passengers in the city. The last car will not stop, except at Broome st. and 27th street.

Freight Trains leave New York at 1 o'clock pm.—Returning, leaves Dover Plains at 12 o'clock m.

For Sunday Aarrangements, see hand bills.

M. SLOAT, Sup't.

NEW YORK AND ERIE RAILROAD. OPEN TO ELMIRA.

On and after the 8th of October, the trains will run as follows, (Sundays excepted):

THROUGH PASSENGER TRAINS from New York to Elmira, will leave the Company's Pier at the foot of Duane street, at 7 o'clock a.m. and 5 o'clock p.m. stopping at all the way stations.

From Elmira the through trains will leave for New York at 5 o'clock a.m. and 6½ p. m., stopping also at all the way stations.

A SPECIAL WAY TRAIN, for Port Jervis and intermediate stations, except Sufferns, will leave New York every Saturday at 3 p. m., and will leave Port Jervis for New York every Monday morning, at 4 55 o'clock.

A MILK TRAIN, with Passenger Cars attached, will leave Port Jervis for New York at 3 o'clock a.m. and returning will leave New York for Port Jervis at 3 p.m. Another milk train with passenger car, will leave Piermont for Otisville at 9 am., and returning leave Otisville at 4 55 p.m., connecting with the freight boats to New York. The milk trains do not connect with the P. and R. railroad.

FREIGHT.—Freight leaves New York every night for all the regular stations on the road. A freight train will leave Elmira every morning at 3 20 o'clock a.m. —A freight train will leave Port Jervis for New York every morning at 5 o'clock, and another at 8 a.m. with market freights.

A Special Train for cattle and other live stock, will leave Elmira on Tuesdays and Fridays at 12 20 p.m.; and from Port Jervis, for New York, on Wednesdays and Saturdays, at 8 40 a.m.

FARE from New York to Elmira $5 75. The intermediate stations in proportion.

COMMUTATION TICKETS, at lower rates, for the stations between New York and Port Jervis, can be purchased at the New York and Piermont offices.

The Steamboat ERIE leaves New York for Piermont every day at 3 o'clock, and returns on the arrival of the train from Elmira, arriving at New York at about 7½ p.m.

JAMES P. KIRKWOOD, Superintendant.

GEORGIA RAILROAD. FROM AUGUSTA TO ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD, FROM ATLANTA TO DALTON, 100 MILES.

This Road, in connection with the South Carolina Railroad, and Western and Atlantic Railroad, now forms a continuous line, 408 miles in length, from Charleston to Dalton Cross Plains) in Murray county, Ga. 32 miles from Chattanooga, Tenn.

*RATES OF FREIGHT.

		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class	Boxes of Hats, Bonnets, and Furniture, per cubic foot	$0 18	$0 28
2d class	Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs, and Confectionary, per 100 lbs.	1 00	1 50
3d class	Sugar, Coffee, Liquor, Bagging, Rope, Cotton, Yarns Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow ware, Castings, Crockery, etc.	0 60	0 85
4th class	Flour Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.	0 40	0 65
	Cotton, per 100 lbs.	0 45	0 70
	Molasses per hogshead	8 50	13 50
	" " barrel	2 50	4 25
	Salt per bushel	0 18	
	Salt per Liverpool sack	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows	0 75	1 50

German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Company will be forwarded free of commissions. Freights payable at Dalton.

F. C. ARMS,
44*1y Sup't of Transportation.

LITTLE MIAMI RAILROAD.—SUMMER ARRANGEMENT.

CINCINNATI & SANDUSKY.

FIRST Passenger Train leaves Depot on East Front street, at 5 o'clock 10 minutes A. M. stops for breakfast at Morrow, and arrives at Springfield at 11 10 A. M. Leaves Springfield for Sandusky at 11 50 A. M.

Second Passenger Train leaves Depot 3 P. M. arrives at Springfield at 9 P.M. Passengers take tea at Springfield, and leaves for Sandusky at 9¼ P. M.

RETURNING—First Train leaves Springfield at 4 A. M. Stop for breakfast at Xenia, and arrives at Cincinnati at 10 15 A. M.

Second Train leaves Springfield at 2¼ P. M. Stop for tea at Morrow, and arrives at cincinnati, at 8¼ P. M.

Passengers taking the Morning Train arrive at Sandusky at 9 P. M. Those taking the Afternoon Train arrive at 7¼ A. M. next morning, and proceed directly on in the boats.

Passengers for columbus, Zanesville, Wheeling, and intermediate towns, should take the 5, 10 A. M., Train.

The Ohi Stage Company are running the following Lines in connection with the Trains:

A Daily Daylight Line to Columbus from Springfield in connection with the Morning Train from Cincinnati. Also, Daily Lines to Columbus, from Xenia and Springfield, connecting with the 3 o'clock, pm. Train from Cincinnati.

Fare from Cincinnati to	Xenia	- -	$1 90
Do	do	Springfield - -	2 50
Do	do	Sandusky City -	6 50
Do	do	Buffalo - -	10 00
Do	do	Columbus - -	4 50

For other information and through tickets, apply at the Ticket Office on Broadway, near Front-st., Cincinnati.

W. H. CLEMENT, Superintendent.

☞ The Company will not be responsible for Baggage exceeding 50 dollars in value, unless the same is returned to the Conductors or Agent, and freight paid at the rate of a passage for every 500 dollars in value above that amount.

PHILADELPHIA, WILMINGTON, & BALTIMORE RAILROAD.

Summer Arrangement.
April 1st, 1849.—Fare $3.

Leave Philadelphia 8½ am., and 10 pm.
Leave Baltimore 9 am, and 8 pm.
Sunday—Leave Philadelphia at 10 pm.
" " Baltimore at 8 pm.
Trains stop at way stations.

Charleston, S. C.

Through tickets Philadelphia to Charleston, $20.

Pittsburg and Wheeling.

Through ticket, Philadelphia to Pittsburg, $12.
" " Wheeling, 13.
Through tickets sold at Philadelphia office only.

Wilmington Accommodation.

Leave Philadelphia at 12 m. 4 and 7 pm.
Leave Wilmington at 7¼ am., 4¼ and 7 pm.

Newcastle Line.

Leave Philadelphia at 2¼ pm.—Baltimore at 1½ pm
Fare $3.—Second class, $2.
N.B.—Extra baggage charged for.

I. R TRIMBLE, Gen. Supt.

BALTIMORE AND SUSQUEHANNA RAILROAD.—Reduction of Fare. Morning and Afternoon Trains between Baltimore and York.—The Passenger Trains run daily, except Sundays, as follows:

Leave Baltimore at	9 am. and 3½ pm.
Arrive at	9 am. and 6½ pm.
Leave York at	5 am. and 3 pm.
Arrive at	12½ pm. & 8 pm.
Leave York for Columbia at	1½ pm. & 8 am.
Leave Columbia for York at	8 am. & 2 pm.

Fare:

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG, AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg	$9
Or via Lancaster by railroad	10
Through tickets to Harrisbnrg or Gettysburg	3

In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at - - 5½ pm.
Returning, leaves Owing's Mills at - - 7 am.

D. C. H. BORDLEY, Sup't.
31 1y Ticket Office, 63 North st.

PHILADELPHIA & READING RAILROAD. Passenger Train Arrangement for 1848.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock am.

The Train from Philadelphia arrives at Reading at 12 18 m.

The Train from Pottsville arrives at Reading at 10 43 am.

Fares.	Miles.	No. 1.	No. 2
Between Phila. and Pottsville,	92	$3.50 and	$3.00
" " Reading	58	2.25 and	1.90
" Pottsville "	34	1.40 and	1.20

Five minutes allowed at Reading, and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf.

BALTIMORE AND OHIO RAILROAD AND WASHINGTON BRANCH.

On and after January 1, 1850, Passenger Trains will run as follows:

Leave Baltimore for Ellicott's Mills, Frederick, Harper's Ferry, Martinsburg, Hancock and Cumberland, every morning at 7¼ o'clock. This line carries the Great Mail, and connects with Post Coaches at Cumberland, for Wheeling and Pittsburg, over the National Road. Also with the Winchester Trains, at Harper's Ferry. N.B.—Passengers for Pittsburg take the steamers of the Monongahela slack water navigation at *Brownsville*, only 76 miles from Cumberland.

Leave Baltimore for Ellicott's Mills, Frederick and Harper's Ferry, daily, except Sunday, at 4¼ p.m.

Leave Baltimore for Washington City, daily, at 6 a.m. and 5 p.m.—daily, except Sunday, at 9 a.m. The early train connects with the Great Southern Line, via Fredericksburg and Richmond, to Charleston.

Leave Cumberland for Baltimore, etc., at 8½ a. m., daily, connecting with the train from Winchester at Harper's Ferry—with the Evening Train to Washington City, at the Relay House—and with the Evening Train to Philadelphia, at Baltimore. Time for arriving at Baltimore, 5½ p.m.

Leave Harper's Ferry for Baltimore, daily, except Sunday, at 7½ a. m—taking in Passengers who leave Frederick at 8¼ a.m.

Leave Washington for Baltimore, daily, at 6 a.m. & 5½ p.m., and *daily, except Sunday*, at 9½ a. m. The early train connects at the Relay House with the morning line to Cumberland and the West, and at Baltimore with the day line to Philadelphia and New York.

Through tickets are sold at *Philadelphia and Baltimore* for Pittsburgh and Wheeling, and at *Philadelphia and New York* for Charleston, S. C., at the following

RATES OF FARE.

	To Pittsburg. In winter.	Summer.	Wheeling. Win.	Sum.	Charleston.
From Philadelphia,	$13	$12	$14	$13	$20
" Baltimore,	11	10	12	11	
" New York,					20

Passengers leaving New York not later than the afternoon line via Newark, etc., reach Baltimore in season to take the next morning's lines to the South and West.

Passengers leaving Cumberland in the morning and Washington in the evening lines, reach Baltimore in season to proceed to Philadelphia by the evening train at 8 p. m.—so as to reach New York before noon the next day.

An Emigrant line by burthen cars, leaves Baltimore every morning, except Sundays, at 4 o'clock—connecting with a line of the previous day from N. York—and at Cumberland with a wagon line to Pittsburg or Brownsville and Wheeling. Fare by this line:

From New York to Pittsburg,	$8 00
" Philadelphia "	6 50
" Baltimore "	5 00

By order, J. T. ENGLAND, Agent.

SOUTH CAROLINA RAILROAD.—A PASSENGER Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily	$26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia	22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic Railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

JOHN KING, Jr., Agent.

CENTRAL RAILROAD FROM SAVANNAH TO MACON, (Ga.) 190¼ miles.

Passenger Trains leave Savannah and Macon daily at 7 a.m.
Passenger trains arrive daily at Savannah, 6 15 p.m.
" " " " Macon, 6 45 p.m.

This road, in connection with the Macon and Western road from Macon to Atlanta, and the Western and Atlantic road from Atlanta to Dalton, now forms a continuous line of 391¼ miles in length* from Savannah to Dalton, Murray county, Ga. and with the Memphis Branch railroad, and Stages connect with the following places:

Tickets from Savannah to Macon,		$5 75
" " "	Atlanta,	9 50
" " "	Augusta,	6 50
" " "	Columbus,	15 00
" " "	Opelika,†	17 00
" " "	Jacksonville, Ala.,	20 00
" " "	Talladega,	
" " "	Huntsville, Ala.,	22 00
" " "	Decatur,	
" " "	Tuscumbia, Ala.,	22 50
" " "	Tuscaloosa, Ala.,	
" " "	Columbus, Miss,	28 00
" " "	Aberdeen, "	
" " "	Holly Springs	
" " "	Nashville, Tenn.	
" " "	Murphreesboro'	25 00
" " "	Columbia, do.,	
" " "	Memphis, do.,	39 00

An extra Passenger Train leaves Savannah on Saturdays, after the arrival of the Steam-ships from New York, for Macon, and connects with the Macon and Western railroad; and on Tuesdays, after the arrival of the Macon and Western cars, an extra Passenger Train leaves Macon to connect with the Steam ships for New York.

Stages for Tallahasse and intermediate places connect with the road at Macon, Mondays, Wednesdays, and Fridays, and with Milledgeville at Gordon daily.

Passengers for Montgomery, Mobile and New Orleans take stage for Opelika from Barnesville through Columbus, a distance of 97 miles, or from Griffin thro' West Point, a distance ot 93 miles.

* The Western and Atlantic railroad will soon be completed between Dalton and Chattanooga, a distance of 423¼ miles from Savannah, of which due notice will be given.

† Head of the West Point and Montgomery railroad, on which the fare to Montgomery is about $2.

RATES OF FREIGHT FOR MERCHANDIZE GENERALLY, FROM SAVANNAH TO MACON.

Measurement Goods.—Boxes of hats, bonnets, furniture, shoes, saddlery, dry-goods, and other measurement goods, per cubic foot - - - 13 cents.
Crockery Ware, in crates, boxes or hhds, per cubic foot. - - - - 10 "
Goods by Weight, 1st class.—Boxes of glass, paints, drugs & confectionary, per 100 lbs., 50 "
2d class—Sugar, coffee, rope, butter, cheese, lard, tobacco, leather, hides, copper, sheet and hoop iron, tin, hard and hollow ware, rice, boxes soap and candles, bagging, and other heavy articles not enumerated below, per 100 lbs., - - - - 45 "
3d class—Flour, bacon, liquors, pork, beef, fish, tallow and beeswax, per 100 lbs., 40 "
4th class—Mill-gearing, pig and bar iron, grind and millstones, nails, spikes and coal, 100 lb. 30 "
Barrels of beets, bread, crackers, potatoes, ice, fruit, oysters, onions, and all light bbls, each, 75 "
Oil and molasses per hhd., (smaller casks in proportion) - - - $6 00 "
Salt per sack not exceeding 4 bushels, - 50 "

☞ Goods consigned to Thos. S. Wayne, Forwarding Agent, Savannah, will be forwarded free of commission. WM. M. WADLEY, Supt.

Savannah, Ga., February 24, 1850.

THE WESTERN AND ATLANTIC RAILROAD.—This Road is now in operation to Oothcaloga, a distance of 80 miles, and connects daily (Sundays excepted) with the Georgia Railroad.

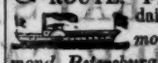
From Kingston, on this road, there is a tri-weekly line of stages, which leave on the arrival of the cars on Tuesday, Thursday and Saturday, for Warrenton, Huntsville, Decatur, and Tuscumbia, Alabama, and Memphis, Tennessee.

On the same days the stages leave Oothcaloga for Chattanooga, Jasper, Murfreesborough, Knoxville and Nashville, Tennessee.

This is the most expeditious route from the east to any of these places.

CHAS. F. M. GARNETT,
Chief Engineer

GREAT NORTHERN & SOUTHERN MAIL ROUTE.



From New York to Charleston, S. C. daily, via *Philadelphia, Baltimore, Washington City, Richmond, Petersburg, Weldon and Wilmington, N. C.*

Travellers by this route, leaving New York at 4½ p. m., Philadelphia at 10 p.m., and Baltimore at 6 a.m., proceed without delay at any point on the route, arriving at Richmond, Va., in a day, and at Charleston, S. C., in two and half days from New York.

Through tickets from New York to Charleston, $20 00
" " Baltimore to Richmond, 7 00
" " " " Petersburg, 7 50

For tickets to Richmond and Petersburg, or further information, apply at the *Southern Ticket Office, adjoining the Washington Railroad Ticket Office, Pratt Street, Baltimore* STOCKTON & FALLS.

October, 1849.

ST. LAWRENCE & ATLANTIC RAILROAD COMPANY.

Notice is hereby given that the Trains run twice per day between Montreal and St. Hyacinth, leaving each terminus alternately, until further notice.

Leaving St. Hyacinth at - - 7 am.
" " - - 3 pm.
Leaving Montreal at - - 10 am.
" " - - - 6 pm.

THOMAS STEERS, *Secretary.*

May 31, 1849.

MACHINE WORKS OF ROGERS KETCHUM & GROSVENOR, *Patterson, N. J.* The undersigned receive orders for the following articles manufactured by them of the most superior description in every particular. Their works being extensive, and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and dispatch.

Railroad Work.—Locomotive Steam Engines and Tenders; Driving and other Locomotive Wheels, Axles Springs and Flange Tires; Car Wheels of Cast Iron a variety of patterns and chills; Car Wheels of Cast Iron with wrought tires; Axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and millwright work generally, hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Patterson, N.J. or 74 Broadway, New York.

NOTICE TO

Superintendents of Railroads.

TYLER'S PATENT SAFETY SWITCH.—The undersigned would respectfully call their attention to his Patent Safety Switch, which from long trial and late severe tests has proved itself perfectly reliable for the purpose for which it was intended. It is designed to prevent the train from running off when the switch is set to the wrong track by design or accident. The single rail or gate switch is established as the best and safest switch for the ordinary purpose of shifting cars from one track to another, but it is liable to the serious evil of having one track open or broken when connected with the other. My improvement entirely removes this evil, and while it accomplishes this important office, leaves the switch in its original simplicity and perfection of a plain unbroken rail, connecting one track with the other ready for use.

The following decision of the Commissioner of Patents is respectfully submitted to Railroad Engineers, superintendents, and all others interested in the subject. P. B. TYLER.

(COPY.)

UNITED STATES PATENT OFFICE,
Washington City, D.C., April 28th, 1846.

SIR: You are hereby informed that in the case of the interference between your claims and those of Gustavus A. Nicolls, for improvements in safety switches—upon which a hearing was appointed to take place on the 3d Monday in March, 1846, the question of priority of invention has been decided in your favor. Inclosed is a copy of the decision. The testimony in the case is now open to the inspection of those concerned.

Yours respectfully, EDMUND BURKE,
Commissioner of Patents.

To Philos B. Tyler.

Any further information may be obtained by addressing P. B. TYLER, Springfield, Mass., or JOHN PENDLETON, Agent, 149 Hudson St., New York.

ENGINEERS' AND SURVEYORS'

INSTRUMENTS MADE BY

EDMUND DRAPER,

Surviving partner of

STANCLIFFE & DRAPER.

No. 23 Pear street, below Walnut,
" 0 near Third, Philadelphia.

CAR MANUFACTORY

CINCINNATI, OHIO.

KECK & DAVENPORT WOULD RESPECTfully call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati, Ohio, Oct. 2, 1848. 44tf

C. W. Bentley & Co,

IRON Founders, Portable Steam Engine Builders and Boiler Makers, Corner Front and Plowman Sts., near Balttmore St. Bridge,

BALTIMORE, MARYLAND.

Their Engines are simple in their construction, compact and durable; they require no brick work in setting them, and occupyidg but a small space (a six horse power engine and boiler, standing on a cast iron plate of three by six feet.)

They also manufacture Major W. P. Williamson's new oscillating Engine; a superior article, combining cheapness and simplicity (one of which may be seen in operation at their shop.) Both of these engines are adapted to any purpose where power is required, and may be made of any capacity; and for economy in use of fuel are unsurpassed.

All kinds of machinery made to order. Steam Generators, Force Pumps, Wrought Iron Pipes and Fillings for Steam, Water, Gas, etc., constantly on hand,

Baltimore, June 6, 1849.

PHILADELPHIA CAR MANUFACTORY,

CORNER SCHUYLKILL 2D AND HAMILTON STS.,

SPRING GARDEN, PHILADELPHIA CO., PA.

Kimball & Gorton,

Having recently constructed the above works, are prepared to construct at short notice all kinds of

RAILROAD CARS, Viz:

Passenger Cars of all classes—Open and Covered Freight and Express Cars—Coal Cars—Hand Cars & Trucks of all descriptions.

They are also prepared to furnish Chilled Wheels of any pattern. Car Wheels & Axles fitted and furnished. Snow Ploughs and Tenders made to order. Steel and other Springs always on hand.

All orders will be filled at short notice, and upon as good terms as at any other establishment in the country.

Omnibuses from the Exchange run within one square of the manufactory every 10 minutes during the day.

Philadelphia, June 16, 1849. 1y25

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.

Jan. 20, 1849.

Coal.

CUMBERLAND SEMI-BITUMINOUS COAL superior quality for Locomotives, for sale by

H. B. TEBBETTS,
No. 40 Wall St., New York.

May 12, 1849. 1m19

FOWLER M. RAY'S
METALLIC INDIA RUBBER CAR SPRINGS.

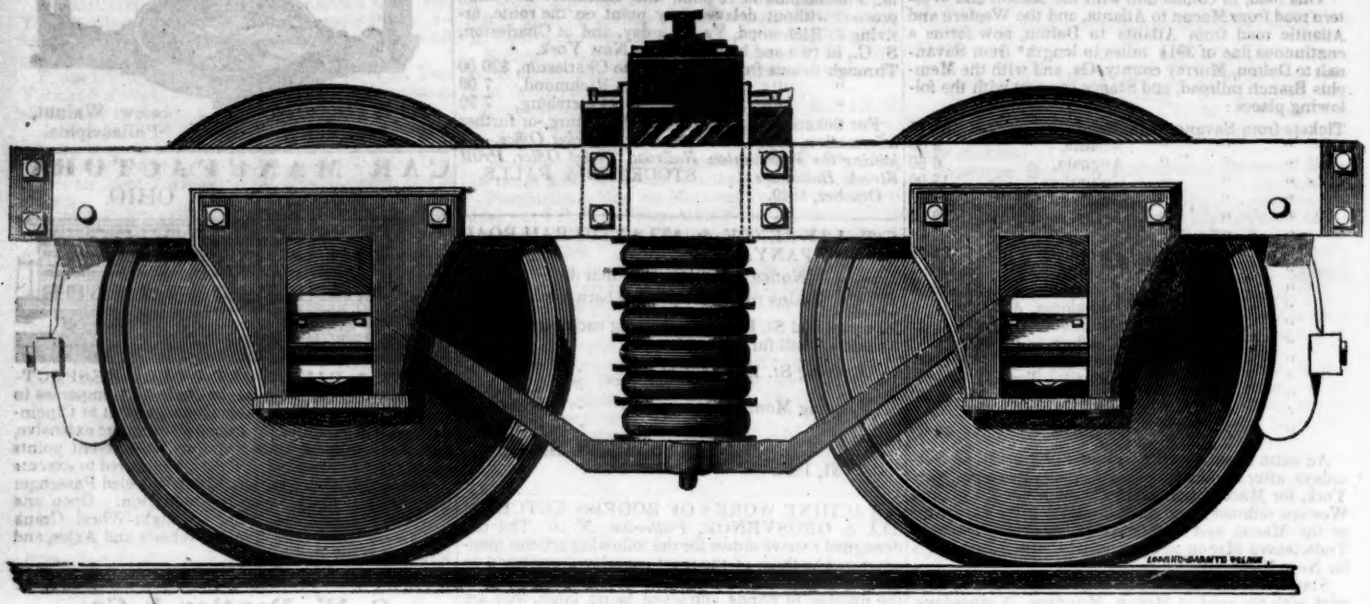


Fig. 1.

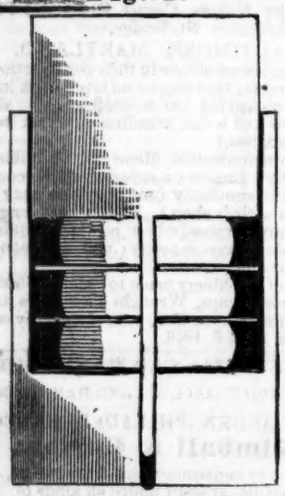


Fig. 2.

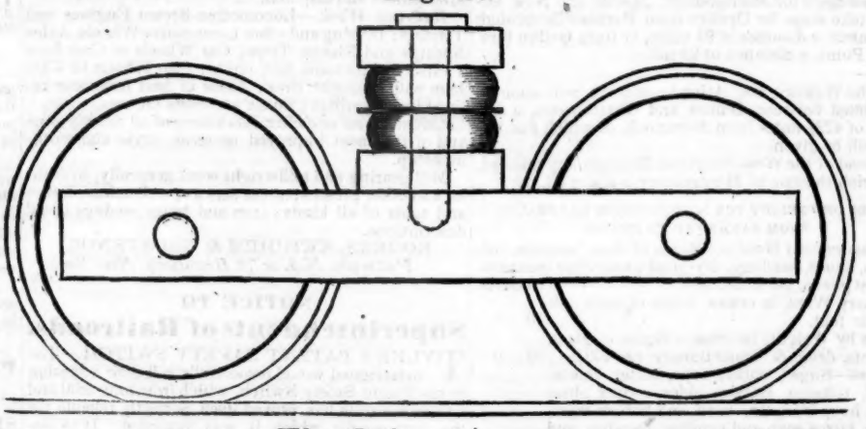
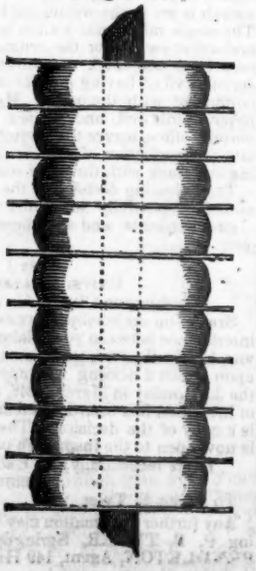


Fig. 3.



So much has been published for the purpose of misleading the public in regard to the inventorship of the India-rubber Railroad Spring, patented in the United States by Mr. W. C. Fuller, that the New England Car Company, proprietors of this invention, have deemed it proper, for the information of Railroad Companies, Car Builders and the public generally, to lay before them the facts upon which they found their claim to this invention, and to a Patent therefor.

Cut No. 1, Represents a cross section of the first model made by Mr. Tucker, under the direction of Mr. Ray, in the summer of 1844, and to which Mr. Tucker, Mr. Bradley and Mr. Bannester testify as being the model marked "B."

Cut No. 2, Represents the model made in 1845, to which Mr. Osgood Bradley and Gen. Thos. W. Harvey have testified.

Cut No. 3, Represents a rough sketch made by Mr. Ray in 1844, which he gave to a man about departing for England to take out some patents, who promised to write to Ray after his arrival in that country—which promise he has probably forgotten.

Mr. W. C. Fuller, of England, patented the above Spring in that country on the 23d October, 1845. He filed his enrollment April 23d, 1846, and on the 22d October, 1846, he took out a patent in the United States under the title, "For Improvement in Railway Carriages," when the improvement consisted in the spring, and not in the carriage.

The reader will perceive by the annexed testimony, that the India-rubber Railroad Car Spring was invented by Mr. Ray about two years previous to the date of Mr. Fuller's enrollment.

The Depositions are omitted for want of room, but will be published in full in the course of a few weeks.

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